



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. 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

Public Charter Title I Magnet Private Independent Rural

Name of Principal: **Ms. Mary S. Swazey**

Official School Name: **Belle Chasse Academy**

Official School Name Mailing Address: **100 Fifth St./NAS-JRB Belle Chasse, LA 70737**

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

County: **United States of America**

State School Code Number *: **N.A.**

Telephone: **504-433-5850**

Fax: **504-433-5590**

Web site/URL: **bellechasseacademy.org**

E-mail: **mswazey@bellechasseacademy.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.

Mary S. Swazey Date: **12/1/16**
(Principal's Signature)

Name of Superintendent: **Mrs. Jane M. Dye**

District Name: **Belle Chasse Academy Inc.**



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

Jane M. Dy

Date: 12/1/16

(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: **Louisiana Department of Education**

Name of Nominating Authority: **Ms. Lydia Hill**

(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.

Lydia R. Hill

Date: 1/29/2017

(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.



Louisiana Green Schools Application for Green Ribbon Schools

School Contact Information

School Name: Belle Chasse Academy

Street Address: 100 Fifth St/NAS-JRB

City: Belle Chasse

State: LA

Zip: 70037

Website: bellechasseacademy.org

Principal Name: Jane Dye

Principal Email Address: jdye@bellechasseacademy.org

Phone Number: 504-433-5850

Lead Applicant Name (if different): Emma Mattesky

Lead Applicant Email: emattesky@bellechasseacademy.org

Phone Number: 504-433-5850

School Information

<p>Level</p> <p><input type="checkbox"/> Early Learning Center</p> <p><input type="checkbox"/> Elementary (PK - 5 or 6)</p> <p><input checked="" type="checkbox"/> K - 8</p> <p><input type="checkbox"/> Middle (6 - 8 or 9)</p> <p><input type="checkbox"/> High (9 or 10 - 12)</p>	<p>School Type</p> <p><input type="checkbox"/> Public</p> <p><input type="checkbox"/> Private/Independent</p> <p><input checked="" type="checkbox"/> Charter</p> <p><input type="checkbox"/> Magnet</p>	<p>How would you describe your school?</p> <p><input checked="" type="checkbox"/> Urban</p> <p><input type="checkbox"/> Suburban</p> <p><input type="checkbox"/> Rural</p>	<p>District Name</p> <p><u>Belle Chasse Academy, Inc.</u></p> <p>Is your school in one of the largest 50 districts in the nation?</p> <p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <hr/> <p>Total Enrolled: <u>972</u></p>
<p>Does your school serve 40% or more students from disadvantaged* households?</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p>% eligible for FRPL <u>46%</u></p> <p>% limited English proficient <u>1%</u></p> <p>Other measures <u>N/A</u></p>		<p>Graduation rate: <u>N/A</u></p> <p>Attendance rate: <u>95-97% daily</u></p>



Part II: Summary Narrative:

Rising above the surrounding neighborhoods in the epicenter of the Navy Air Station Joint Reserve Base community in Belle Chasse, Louisiana, Belle Chasse Academy's presence as a robust and diverse learning space and environmental leader is indisputable. Dozens of newly planted citrus trees and plants are scattered throughout the open grass, filling the space between brick buildings. Multiple victory and math gardens bloom with fresh, organic fruits and vegetables cultivated and harvested by students. The hydroponic greenhouse and composting stations are full of movement as students, teachers, and garden affiliates fill the space with educational dialog and hands-on learning activities. In these spaces our students are immersed in the concept of environmental sustainability, becoming active in a movement that is global in its reach.

Belle Chasse Academy (BCA) is a Type II military dependent K-8 charter school that serves 1000+ students each year. BCA serves a minority student population that incontrovertibly has special and unique needs—our military children, and by extension, their families. Our academy serves students and families residing in all five parishes of the greater New Orleans area. Our students arrive at BCA from all over the world and represent almost every ethnic heritage possible. This rich diversity of background, both educational and social, coupled with the strong sense of unity and pride fostered by the shared experience of familial service to our country, make our learning community uniquely worldly-wise and inquisitive. A perennial and overarching challenge faced by BCA is this highly mobile and ever-changing stakeholder population. This mobility not only presents challenges to yearly academic growth and sustainment of achievement levels, but it challenges the development of a strong school community and culture. This inspired us to create distinguished and *collaborative* programs in health and nutrition, environmental sustainability and education, parent involvement, and 21st century after-school learning. With the knowledge of our student's mobility, BCA is in the unique position to empower them with skills that will be applied to future communities of which they are a part.

In unison with our 21st century learning goals and the funding from multiple grants, BCA scaled its robust and transformative "Green School" initiative. Through our "Farm to School" and "Farm to Table" allocation, BCA increased school and community knowledge and choice, expanded community partnerships with over fourteen nutritional and environmental organizations, developed hands-on STEM focused experiential learning curriculum, and reduced its energy usage and greenhouse gas emissions. BCA retrofitted over 83% of our light fixtures with motion sensors lights and replaced 35% paper towel dispensers with hand dryers, reducing our energy consumption significantly in just one year.

BCA built a year-round hydroponic greenhouse for students to grow and sell produce to local Plaquemines Parish restaurants and farmers, reinforcing the link between income generation and sustainability efforts. BCA's eighteen ground-bed victory garden yields local, organic Louisiana harvest served as a part of our Harvest of the Month program to every student in our building. Adjacent to the victory garden is our K-8 integrated math garden, equipped with a unique shaped bed for each grade level and designed as an outdoor classroom immersion learning tool for all math levels. Under the leadership of our full-



time garden coordinator, BCA's Gorilla Green Team developed and implemented a student-driven recycling initiative that now reaps over 4,441 pounds of paper and cardboard every month. The Gorilla Green Team oversees the collection and supervision of over 150 pounds of leftover cafeteria food that is composted and employed to nourish the gardens. In utilizing this garden and environmental learning space, our academic coaches, in partnership with our K-8 educators, created a holistic, STEM focused curriculum to explicitly teach sustainable lifestyles and environmental responsibility. These comprehensive and collaborative efforts to address environmental education received distinguished recognition from LifeCity and the United States Department of Agriculture.

BCA also strives to support the health and wellness of its students and staff. BCA has limited exposure to potentially harmful chemical exposure reducing pesticide use by over 36% over the past year, while completely eliminating their use in the various school garden initiatives. Additionally, 46% of the cleaning products used at BCA are Green Seal certified. BCA actively reduces asthma triggers on campus by prohibiting the use of nitrite aerosols, ensuring HVAC equipment is dust and mildew free, and maintaining a smoke-free campus. BCA utilizes multiple partners and programs that help support our health initiatives for a diverse population including providing mental health for every student through the Military and Family Life Counseling Program.

BCA's initiatives to become socially and environmentally responsible in practice signifies a component to our philosophy that a BCA education develops students who embody a social awareness that inspires action. Our desire is to create informed community members who share a sense of global responsibility to enliven and advocate for our planet.

Part III: Documentation of State Evaluation of District Nominee

Pillar I: Reduced Environmental Impact and Costs

Element IA: Energy

Despite our physical scope and size, BCA has significantly reduced its greenhouse gas emissions and energy usage. This summer we installed thirty-one additional motion sensitive electrical light switches into the classrooms and reduced the number of "firelights" that were illuminated twenty-four hours a day. To date, 67% of all rooms and offices in the Main Building and 99% in the Fine Arts Building have light motion sensors. In 2016 BCA commenced participation in the EPA's Energy Star Portfolio Manager, the EPA tool to track electric and water consumption and greenhouse gas emissions. Our initial effort is directed toward inputting electric meter readings to build our benchmark for calculating future changes in our consumption of electricity.

Element IB: Water and Grounds



One-fourth of our campus is ecologically beneficial with large grass areas, a wide variety of locally grown trees and shrubs for natural cooling, and various large plant and vegetable gardens to serve as learning spaces. Specifically, we utilize 1000sq. feet of raised bed and garden space, 2,025 sq. feet of in-ground garden space, space for 20 citrus trees, and 1,575 sq. feet for a hydroponic greenhouse. Approximately 80% of our landscaping is water efficient and regionally appropriate, and all watering needs are satisfied through natural rainwater. A variety of shrubs and groundcover of differing height and coverage are used to reduce heating. Storm water runoff is purposefully reduced using groundcover plantings, and rooftop runoff has been purposefully diverted to a culvert, both directly and through an underground link to a municipal storm drain and pipeline. All of BCA's drinking water comes from municipal sources that are routinely tested for quality assurance by the Plaquemines Parish Water Department. To curb water waste and promote smarter environmental choices, BCA is in the process of installing appropriate water bottle-fill stations to encourage staff, students, and community members to reduce the consumption of plastic consumables.

Element IC: Waste

With the leadership of our Gorilla Green Team, a student run sustainability committee and initiative, we recycle approximately 4,441 pounds of paper and cardboard every month. This equates to 90% of our cardboard waste diverted from landfills. The cardboard is collected in two containers (6 cubic yards and 4 cubic yards) which are filled and emptied every 10 days. The paper, primarily printer and notebook, is collected in 65-gallon rolling bins, and 3 bins are filled and collected weekly. The Gorilla Green Team brings the collection to the on-base recycling center near the school. To date, we divert 65% of our paper waste from landfills through this process. Using separate waste cans labeled in the K-8 cafeteria, we collect and compost 150 lbs. of leftover cafeteria food every week. This nourishes the soil in our gardens. Our most recent efforts to curb solid waste was the installation of electric hand dryers in 35% of the school bathrooms (18 air blade hand dryers) which resulted in an estimated 20% drop in paper towel consumption over the course of three months. We converted the plastic bottles in our staff soft-drink machines to aluminum cans that are recycled and collected by the students. Using the Keep America Beautiful *Recycle Bowl* conversion tables (see below) our average monthly recycling totals are as follows:

- Cardboard: 2,844 pounds
- Paper: 1,597 pounds
- Plastic bottles: 14.4 pounds
- Aluminum cans: 7.5 pounds
- Steel cans: 5.2 pounds
- School cafeteria food scraps: 2.8 cubic yds/565 gallons*



Keep America Beautiful Recycling Conversion Table

Single Material	Pounds/Gallon	Pounds/Cubic Yard
Aluminum drink cans	0.22	45.53
Cardboard boxes (thick 3 ply paper)	0.57	109.38
Paper (office paper, magazines, newspapers, etc.)	1.89	360.75
Plastic bottles (water, soda, detergent bottles, etc.)	0.16	32.14
Steel cans (soup and vegetable cans from cafeteria)	0.69	135.59

*Food scraps estimated using standard cubic yard to gallon conversion rate.

Element ID: Alternative Transportation

Belle Chasse Academy is located at the center of the NAS-JRB, and a majority of our students live within the vicinity of the school in on-base housing. We institute Safe Pedestrian routes to and from school for walkers and bike riders with crossing guards stationed at all intersections and crosswalks. Safe Pedestrian staff undergo extensive training by our full-time BCA Security Manager. This training is integrated within our local law enforcement. Every student at BCA has a unique daily after-school plan that is monitored by grade level after-school “duty” personnel. No student leaves our care without being accounted for daily. Per direct observation over a five-day period and cross referenced with student data sheets, 6% of our student are car riders, 8% carpool (2+ students), 52% ride bikes, 33% take the bus, 45% walk, and 3% are other. In consideration of environmental impact, no school buses can load or unload near air intakes.

Pillar II: Improve the health and wellness of students and staff

Element IIA: Environmental Health

Structural and landscape pests pose significant health risks to the wellbeing of our students, staff, and community members. With this recognition, we implemented an integrated pest management policy and procedure (IPM) into the school maintenance program for control of indoor and outdoor pests. Our integrated pest management policy focuses on long-term prevention or suppression of pest populations. Overseen by our Director of Operations, we apply a combination of tactics to minimize the impact of control activities on human health and the health of other non-target organisms. This includes an elimination of significant threats caused by pests to the health and safety of students and staff, the prevention or loss/damage to school structures or property by pests, protection of environmental quality inside and outside the school building, and an enhancement of the quality of life for students and staff.

We make a concerted effort to avoid the use of pesticides by adequate pest-proofing of facilities, quality sanitation practices, selections of pest-resistant plant materials, and appropriate horticulture systems. Every year, pesticide labels used by Pest Management Professionals are submitted, and changes are monitored closely by the IPM Coordinator. In



partnership with J&J Exterminating, BCA decreased its application of pest chemicals by 36.4% (6.24 oz.) between January and September of 2015 and 2016. No pesticides are applied when students are expected to be present for academic instruction or extracurricular activities. Additionally, we do not use pesticides or herbicides in any of our garden initiatives. BCA believes in applying more environmentally friendly pesticides to control fire ants, an invasive species which presents a health hazard to our students. We replaced traditional chemical ant baits with Spinosad, a natural, certified organic agricultural substance made by a soil bacterium that is toxic to insects.

In addition to these efforts, BCA's maintenance and cleaning staff members conduct daily trash pick-up. They sweep and buffer the hallways and classroom floors to reduce clutter and create a clean and safe learning environment for our students. This enables us to monitor and curb dust, mold, and mildew development. Maintenance also inspects our HVAC systems routinely to ensure all filters, coils, and condensers are clean and effective. Aerosol sprays containing nitrites have been eliminated in the last year, and all school facilities are designated No Smoking Areas. We maintain grass at appropriate levels to prevent unwanted pests and other animals. All equipment using fossil fuels are stored outside of the school building, and BCA's playground equipment is non-wooden. To ensure air-quality and high-quality ventilation systems, BCA retained a professional air quality service to sample and test selected classrooms and offices for mold and fungus growth. The sample results were at appropriate levels. To limit exposure and decrease asthma triggers, all scented candles and pets are prohibited on campus.

BCA strives to maintain a healthy and eco-friendly environment both with the use of classroom materials and cleaning and maintenance equipment. Our efforts are school-wide in its reach. All custodial, teaching, and office staff are annually trained to identify, dispose, and collect hazardous materials. Science classes begin the year with a discussion around cleanliness and awareness as a vital component to being a scientist. 46% of the cleaning products used in our building are marked with The Green Seal of approval (greenseal.org). Some of the brands that we use include Star Spray, Marauder, Tenacity, Green Certified Soap, and Eco 11.

Element IIB: Nutrition and Fitness

Health, nutrition, and the connection between growing and eating local produce is an essential component to BCA's environmental philosophy. Coupled with the need to consistently expose students to a variety of healthy food choices, Our Eagle's Way Café, which serves over 950 students every day, provides a variety of fresh fruits and vegetable options for every meal that our students share. Our integral partnership with the USDA Foods and the Department of Defense Fresh Fruit and Vegetables Program enables us to serve our students at least six healthy offerings per day, all of which are explicitly taught through the MyPlate nutritional curriculum. Every student in our building is exposed to MyPlate, Offer vs. Serve, Smarter Lunchroom techniques, and Healthier School Lunch Programs.



Element IIB (cont.): Coordinated School Health, Mental Health, School Climate, and Safety

Because our military students take a varied and often dissimilar path to our school, our students arrive with disparate levels of skills, knowledge, and social-emotional needs. This human migration in and out of the learning community has inspired us to create model programs in the areas of transitional support, anti-bullying, military-life counseling, physical health, and general counseling for social-emotional development. The strong collaboration among BCA's mental, physical, and social-emotional departments create the fullest possible educational opportunity for each BCA student, regardless of his/her circumstances. Our two full-time nurses serve as health consultants and resource persons for health instruction and curriculum implemented within the classrooms. They cooperate with school staff in establishing procedures for providing emergency care and annual health education programs, such as Blood Borne Pathogens and Cardiopulmonary Resuscitation (CPR) training. Our nurses work closely with our counseling department to document and communicate suspected child abuse. BCA partners with multiple organizations to provide incentives and support for school health and safety. These partners include:

- K-1st: BIPPO'S Place for Smiles Dental Health
- 2nd-4th: Naval Branch Health Clinic
- 5th: Proctor and Gamble Puberty Education
- 6th-8th: Get in Touch Foundation for Girls
- K-8th: Billion Miles Race
- National Association of School Nurses
- Louisiana School Nurse Organization
- American Diabetes Association

The health and wellness of staff is also an essential component to BCA's overall health strategy. Through Humana Vitality, BCA offers monthly on-site consultations, an annual Health Fair, and blood donation opportunities. We conduct a Wellness Wednesday with weekly fruits and send e-mails with helpful health hints. Employees can receive a \$500 reimbursement for reaching a certain health status with Humana, and we reimburse any employee who runs in local races. Miles of Life is an online tracking program sponsored by The Belle Chasse Academy Wellness Committee that encourages staff to stay healthy by tracking their steps and awarding points.

Belle Chasse Academy's counseling, anti-bullying, and character development initiatives permeate the school culture, creating an environment that is safe and inclusive. In partnership with the OLWEUS Bullying Prevention Program and the Character Counts Program, BCA initiates every school year and mid-year with a Character Counts Boot Camp. All students collaborate with their teachers and peers to communicate, problem solve, and identify the importance that our Character Counts Pillars play within our community and personal lives. Through our Positive Behavior Interventions and



Support, students who display the Character Pillars are daily rewarded with Eagle Bucks that they can spend weekly at the Eagle Bucks Store.

To address the unique needs of our children, we partnered with The Military and Family Life Counseling Program that provides two full-time licensed marriage and family therapists and professional counselors to support students whose families fall under the categories of Active Duty Service Members, Reservists, and National Guard Members. Deployment and reintegration, family stressors related to military life, grief and loss, and coping with separation are but a few of the services that these counselors address with our students. Our Military Life counselors visit within the classrooms as well. They introduce new students to their teachers, throw a Hail and Farewell celebration for students leaving, and foster collaborative workshops. A distinguished award at BCA is becoming an Eagle Ambassador. These are students recognized by their teachers who display compassion, leadership, and empathy. Throughout the year, Eagle Ambassadors in every grade level become “wing-buddies” to new students, showing them the ropes and helping them adjust to new classes and schedules. These services through the Military and Family Life Counseling are essential to the transitional process of our military students, and it is an invaluable source to our wellbeing as a school.

All students at BCA receive mental health service in some capacity. In addition to Military Life support, we have three full-time licensed grade-level designated counselors, a licensed social worker who supports our Special Education population, two part-time psychologists, and two psychology graduate interns on campus once a week. In addition to whole group classroom lessons, the grade-level counselors meet with students individually and in group sessions.

Pillar III: Effective Environmental and Sustainability Education

Pillar IIIA: Interdisciplinary Learning

BCA employs multiple practices to ensure effective environmental and sustainability education and interdisciplinary learning about key relationships within the environment are apparent across the curriculum. Environmental literacy concepts reach every classroom beginning with planting their grade-level gardens. Students are responsible for the care, cultivation, and supervision of their gardens throughout the year, including our after-school students. This continuous supervision helps to instill knowledge, skills, and personal environmental responsibility.

There are multiple instances where BCA integrates environmental and sustainability concepts throughout the curriculum:

Kindergarten – Students investigate how their choices affect the people, places, and things around them. They discover the benefits of making responsible choices concerning the care of our planet through the study of recycling and reusing.



First Grade – Students evaluate ways in which people rely on the environment to meet the basic needs of food, clothing, and shelter. They examine how rivers and waterways were a vital component to human life in the early Americas and how pollution throughout the years has affected modern human health.

Second Grade – Students investigate interdependence of various habitats and regions, as well as the needs of individual organisms, particularly plants.

Third Grade – Students explore civic responsibility and discuss how they can be stewards of the planet, specifically addressing endangered and invasive species. They investigate human impact and take virtual AgMagic field trips where they can touch, taste, and see agriculture.

Eighth Grade – Students learn how human actions and natural processes have modified the coastal regions in Louisiana and throughout the Gulf Coast. They research the consequences and effects of coastal erosion and explore the multiple perspectives within this narrative by crafting arguments from the perspectives of fisherman and oil companies.

Each unit concludes with an assessment where students analyze source articles, visuals, charts, and graphs. They craft essays that analyze arguments surrounding environmental and sustainability concepts. Most recently, the eighth grade received an average of 84% or higher on their coastal erosion debate.

Environmental and sustainability education extends to the teachers and staff as well. Earlier this year, LifeCity led a professional development session providing solutions for teachers and staff to lessen their carbon footprint. All suggestions were implemented and because of our efforts, BCA was a finalist in the 2015 “Green Games” competition. A city-wide committee consisting of governmental, civic, and business leaders narrowed down the contestant to the top nominees in each category, with BCA receiving the metro-wide publicity as a top performer in the “Schools and Public Entities” category.

Element IIIB: STEM Content, Knowledge, and Skills

BCA employs sustainability and the environment as a context for learning science, technology, engineering, and mathematics (STEM) thinking skills and content knowledge in all grade levels. This year, students used the design and engineering process to approach building cisterns that capture rainwater to be used for the gardens. In partnership with the LSU AgCenter, students are using the design and engineering process as well as the scientific process to develop a wetland area to teach about invasive species and the environment. Our after-school programs emphasize STEM and STEAM curriculum using a K-1 Makerspace, 6-8 Makerspace, Creative Builders Club, and LEGO Robotics. BCA students in the 4-H Club also participate in a coastal wetlands remediation program with The Port Nickel and University of New Orleans Education Resource Facility, cultivating cypress tree saplings in an outdoor pond. This project directly supports the Louisiana Coastal Management Plan through the subsequent transplantation cypress saplings and sea oats to



threatened or reclaimed areas of coastal wetland. Thus far, BCA students have planted over 2,700 tree seedlings at three different restoration sites.

BCA developed a Military Dependent Children Charter School Cooperative Network to experientially explore the differences in three agricultural eco-systems: The Southeast Florida Keys, Southeast Louisiana, and the low-altitude Southwest desert. Students will engage in cyber-interactive activities, cyber field trips, and experimentation where classes will evaluate the growth cycles of plants in these various ecosystems. This network includes Sonoran Science Academy Davis-Monthan, Sigsbee Charter School, and Belle Chasse Academy.

In 2014, BCA created a series of school gardens designed to be the cornerstone of our “Farm to School” outdoor initiative that uses the garden as an interactive, inclusive, interdisciplinary classroom. The gardens augment the teaching of math, science and other subjects as students learn about plant cycles, photosynthesis, ecosystems and environmental sustainability.

The creation of a hydroponic pipe recirculating a growing system inside an existing greenhouse will be the capstone of BCA’s “Farm to School” sustainable cafeteria plan, with the initial emphasis on the production of Rex Butterhead lettuce. Ultimate capacity of the growing system is planned to be 900 heads a month. Part of the lettuce yield will be marketed and sold by students to local restaurants and farmers’ markets, introducing and reinforcing the concept of income as linked to the sustainability of the garden. The completion of the hydroponics initiative will specifically enhance the scientific study of food and nutrition, life cycles, agricultural sciences and economics, and stewardship of the environment. The experiential learning opportunities will also include water, carbon and nitrogen cycles, culinary arts, and conservation. BCA’s hydroponic greenhouse will also cultivate Sea Oats for transplant by BCA students to our Louisiana coastal wetlands. Cafeteria cost savings are estimated to be as great as \$8,000.00 per year. Sale of lettuce to area restaurants is projected to be generating revenue of \$5400.00 annually, which will be reinvested in school garden initiatives.

Our mission to serve the children of military families provides a unique opportunity for BCA to spread the concepts of this initiative throughout the areas of service of our military families. Our holistic, STEM-focused curriculum, the incorporation of the school gardens and hydroponics across all academic curricular areas, and the social teaching of environmental responsibility exemplifies our passion and commitment to developing life-long environmental advocates.