



2017-18 DoDEA Green Ribbon Schools Program Application

The nomination package, including the signed certifications and documentation of evaluation in the three Pillars, will be sent as a Word document and a PDF file and e-mailed by HQ 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: U.S. Department of Education, 400 Maryland Ave., SW, Washington, DC 20202-4536 or e-mail ICDocketMgr@ed.gov and reference OMB Control Number 1860-0509. Note: Please **do not** return the completed ED-GRS application to this email/mailing address.



Spangdahlem Middle School

Headquarters Department of Defense Education Activity (HQ DODEA) Nominee to U.S. Department of Education Green Ribbon Schools Program



Prepared by:

HQ DoDEA Education Branch
January 2018

ADDENDUM TO 2017-2018 SCHOOL NOMINEE PRESENTATION FORM

As a unique Federal entity, the Department of Defense Education Activity and its schools (Department of Defense Schools (DODDS) that are located overseas, and the Domestic Dependent Elementary and Secondary Schools (DDESS) located in the U.S.) are not under the auspices of the U.S. Department of Education. However, DODEA processes and procedures comply with all federal laws, including those concerning the investigation of civil rights complaints and complaint reviews, and the administration of the Special Education Program.

2017-18 School Nominee Presentation Form

Part 1: Eligibility Certification and School Application Information

School, District and DoDEA Region Certifications

The signature of the school principal, district superintendent, regional director of student excellence and the deputy director 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.

1. The school has some configuration that includes one or more of grades pre-k–12. (Schools on the same campus with one principal, even a pre-k–12 school, must apply as an entire school.)
2. The school has been evaluated and selected from among schools on the installation, 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 and sustainability education.
3. As a unique Federal entity, DoDEA and its schools are not under the auspices of ED. However, DoDEA processes and procedures comply with all Federal laws, including those concerning the investigation of civil rights complaints and complaint reviews and the administration of the Special Education Program.
4. Office of Civil Rights (OCR) has not issued a violation letter of findings to the school concluding that the nominated school and DoDEA 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 school 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 an ED monitoring report that apply to the school 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 Environmental Protection Agency (EPA) on-site verification if applicable and required by law or other authority.



School Year 2017-2018 School Nominee Presentation Form

Name of Principal: Gregory Bull

Official School Name: Spangdahlem Middle School

School Mailing Address: Unit 3640

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

City: APO

State: AE

Zip: 09126-3640

Installation: Spangdahlem Air Base

DoDEA Area: Europe

Telephone: 49-656561-7255

Fax: 452-2792

Web site/URL: <http://www.dodea.edu/SpangdahlemMS/index.cfm> and <https://www.facebook.com/SpangMS/>

E-mail: PrincipalSpangdahlemMS@eu.dodea.edu

Gregory.Bull@eu.dodea.edu

Percent of Student Population with Disadvantaged Background:

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: December 2, 2017

Name of Superintendent: Mr. Frank Roehl

District Name: Europe West

Telephone: 368-9925

I have reviewed the information in this application and certify that to the best of my knowledge all information is accurate. This school is high-achieving in the three Pillars.

(Superintendent's Signature)

Date: December 2, 2017

Name of Area Director: Dr. Dell McMullen
(Specify: Ms., Miss, Mrs., Dr., Mr., Other)

Region Name: Europe

Telephone: 545-1503

I have reviewed the information in this application and certify that to the best of my knowledge all information is accurate. This school is high-achieving in the three Pillars.

(Regional Director's Signature)

Date: 14 December 2017



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 Nominating 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: Department of Defense Education Activity (DoDEA)

Name of Nominating Authority: Dr. Linda L. Curtis, Principal Deputy Director and Associate Director for Academics

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

Date: 2/20/2018

(Nominating Authority's Signature)



Summary of Nominee's Achievements

What makes your school worthy of the title: Department of Education Green Ribbon School?

Spangdahlem Middle School is geographically located in the Rheinland-Pfalz region of Germany, which boasts a high level of sustainability and serves as an ideal model for our teachers in promoting green ribbon goals and education. Students and teachers alike are keenly aware of methods used in this area to reduce the human footprint on Earth. As our students gaze out from the school windows, they are observing the best examples of alternative energy sources, including solar panels and windmills on the horizon. In surrounding local villages, our community members participate in the successful and dedicated recycling practices of the German neighborhoods. Partnering with, and learning from, our host nation of Germany allows our students and faculty opportunities to be influencers and change agents in our community, the United States, and the world at large. As responsible citizens incorporating the three pillars of the Green Ribbon School into our everyday lives, we continue to grow in responsibility and accountability to our world.

Pillar I: In partnership with the 52nd Fighter Wing, Spangdahlem Middle School has implemented and sustained processes that will reduce environmental impact and costs. Our partnership with Civil Engineering has allowed us to collect and analyze data regarding expenses for utilities, to include water, electricity, oil, & refuse. We collaborate to ensure that the use of our resources are minimized as we work to reduce cost and consumption. Data reflects notable changes as cost and usage are reduced over time. We have implemented a "Flip the Switch" lights-out plan in SY 16-17 and have continued this promotion to reduce the use of electricity, as well as closely monitored the use of water to ensure that we are conserving our natural resources. Recycling plans have been implemented with paper products and we have worked with our 52 Sustainment Services flight to replace the use of plastic ware in the cafeteria with washable/reusable utensils in order to reduce environmental impact. We have also allocated school funding to support the purchase of additional utensils needed to begin this effort. Our plan is to eliminate the use of disposable utensils by the end of SY 2017-2018. Additionally, our unique business rules for Purchase Card Programs require us to comply with Federal Government environmental quality ("green") policies when acquiring supplies or services with the government purchase card. In an effort to reduce environmental impact and cost, the bus drivers shut off the bus engines while waiting at the schools for the students to arrive and board the bus. Making the air healthier not only helps the environment as a whole, but directly limits the health impact of student and personnel exposure to hazardous pollution while in close proximity. When possible, teachers provide assignments via technology such as Google Apps for Education and Schoology in an effort to reduce paper usage thereby reducing environmental impact on paper/tree consumption. Lastly, we are working closely with the local CE squadron and the US Army Core of Engineers as designing and building has begun and is 32% complete for a new middle/high school at Spangdahlem. The Corps of Engineers has a long-standing reputation to serve the nation and other customers in a collaborative manner that is environmentally and socially sustainable.

Pillar II: At Spangdahlem Middle School, we believe the best way to affect change is to first examine our own individual behaviors and personal growth. The staff and faculty serve as role models and encouragers about health and wellness for each other and the student body. Faculty members are ever present in the school activities and community health events, such as local marathons and base-sponsored 5K events. School dances, marathons, fun runs, after school fitness clubs, and a comprehensive physical education program are just a few ways the culture has been set at our school. Staff and faculty members participated in a weekly bountiful baskets program to support local produce farmers and provide healthy farm to table meals. The health education classes develop students' health literacy through an array of topics such as disease prevention, food and diet, and health related careers. Our students are poised to become healthy, well-informed consumers for all health related needs. Student clubs and parent organizations contribute to all social and physical health goals by sponsoring school-wide initiatives.



One recent partnership between school, AAFES, community resources like Health Promotions, and the PTSA promoted packing, or purchasing, the fruits and vegetables in the color of the day. The Specialist Department, PTSA, school nurse, and the 52MDG Health Promotions team also organized an event in September to kick off SY 17-18 with a 'More Matters' Run to promote more fruits and veggies, more environmental awareness, and more physical activity. Over 70 participants enjoyed the event, to include parents, students, teachers, and community members. The needs of the whole child are also met through activities such as Fraction Boot Camp, Brain Bowl, Math Counts, Spelling Bee, Drama Club, Chorus, and Band. Our clubs often promote physical activity and healthy habits with the academic challenge at hand. For example, students attending Fraction Boot Camp were tasked with solving math problems, then jumping up to complete sets of burpees, jumping jacks, and sprints. Healthy snacks make the process less painful! The support staff is also an integral part of providing emotional and social support through the coordinated programs offered by the school counselor and psychologist. The school nurse coordinates and provides medical screenings in collaboration with the 52nd Med Group and for appropriate referrals to meet the medical needs of our student body. The coordinated learning systems of our school promote health and wellness in a systematic way for personal and academic success in life. Each grade level team meets monthly to discuss the academic, social, emotional, or physical needs of students within that grade. Grade level and department team leaders have processes in place for promoting success for all students and escalating needs to a higher level when needed.

Pillar III: The scope of this pillar extends into all subject areas and activities at our school. Our math and science programs effectively incorporate environmental and sustainability lessons into each grade level according to DoDEA standards. Our school was proud to sponsor a district-wide STEMPosium in the spring of 2016, providing incredible STEM projects and learning opportunities as they were "Marooned on Mars". The Mars lander was built by reusing materials such as cereal boxes and cardboard. Staff members have served on the planning committee for the Europe West district STEMPosium for the following two school years which will focus heavily on renewable resources this year. Not only are students engaged with learning 21st century skills, but they are challenged to study how humans interact with their environments through various civic responsibilities. Civic skills are a central component of the middle school education experience. Two programs in SY 16-17 especially highlighted opportunities for creativity, responsibility, and sustainability education. Many students joined the contest and designed switch plates as reminders to turn off the lights when not in use. The winning design continues to be displayed on switch plates throughout the school. The Upcycling contest encouraged students to find new uses for old items. For SY 17-18, a school wide Conservation Convention was held in which students presented fresh new ideas about reusing, recycling, reducing waste, and even upcycling. Local base leaders judged the projects which were kept on display for all to enjoy. Special programs such as the Patriot's Day Ceremony and the toy drive for refugee children by the National Junior Honor Society promote a culture of service and citizenship in our student body. The Student Council election involved all students and created excitement about the election process. Regular board meetings are held for the Student Council leadership to promote accountability and vision for our school. Our Applied Technology course, Pathways to Careers course, and STEM Club challenge students to apply knowledge and make inferences about the world around us in exciting new ways. In areas which have historically attracted male students, our school has been proud to see growth in female students joining our technology clubs and robotics teams. For SY 17-18, the Robotics Club is off to a great start with 5 females and 10 males in attendance! Our school promotes college and career standards, while helping students focus on the impact of their environmental choices and civic responsibilities.

As we seek to instruct our student body about environmental impact and costs, all subject area educators have created teachable moments and activities which fit seamlessly into the DoDEA standards and curricula. Research, evaluation, and responsible action are themes woven into math, science, health, art, host nation, geography, and language arts lessons. We are raising a problem solving generation with the necessary skills to control and affect change for a sustainable future. It is through critical thinking and personal decision making that students are able to put into practice skills that will bring this to fruition. Countless projects and presentations have been assigned and presented about environmental topics and the impact on our future. We have regular visits from environmentally focused professionals and technology focused career members of the Air Force. The Explosive Ordnance Flight has made visits to share 3D printing and other cutting edge



technologies which promote safety and security of our armed forces. Community members have been delighted to visit our school and share expertise and passion for these topics with the next generation.

Spangdahlem Middle School sustains a positive and exciting learning environment promoted by a diverse faculty with a wide range of teaching experience and individual areas of expertise. Our Specialist Department has been enthusiastic and willing to carry the torch by compiling information and coordinating school wide activities to achieve excellence in the areas of the Green Ribbon School pillars. The specialists have continued to take advantage of their collaboration time this school year to promote and cultivate this vision and goal for our school. It is with great pride that I take this opportunity to submit this application on behalf of Spangdahlem Middle School for consideration as a Green Ribbon School.

1. School Profile.

School Name: Spangdahlem Middle School

Installation: Spangdahlem Air Base

Street Address: GEB 441, 54529 Flugplatz, Spangdahlem

City: Unit 3640 APO

State: AE

Zip: 09126-3640

School Web site: <http://www.dodea.edu/SpangdahlemMS/index.cfm>

Principal Name: Gregory Bull

Principal E-mail Address: Gregory.bull@eu.dodea.edu

Principal Phone Number: 49-6565-617205

DoDEA District: Europe West

DoDEA Area: Europe

School Type: Middle School Grades 6-8

School Enrollment: 195

Percent Disadvantaged Background Population: 29% Reduced Lunches (57 students)

14% Free Lunches (28 students)

43% Total

2. Application Team Information

Lead Applicant Name (who prepared the application): Barbara L. Davis

Lead Applicant Title (e.g., teacher, principal): Teacher

Lead Applicant E-mail: Barbara.davis@eu.dodea.edu

Lead Applicant Phone Number: 49-6565-617205 ext. 5016



Application Team Members. (Others who helped prepare this application)

	Name (First and Last)	Title/Department
1	Barbara Davis	Teacher/Specialist
2	Gregory Bull	Principal
3	Dana Raye	Nurse

Part 2: Achievement Area Evaluation

Crosscutting Questions: Awards and Programs

1. Does your school participate in a local, state, or National Green Schools Program?

☒ (X) Yes

☐ () No

If yes, which program(s) are you participating in, what level(s) are in progress and what level(s) have you achieved?

	Program	Level in Progress	Level Achieved (include date achieved)
1	Conservation Convention	Active All students	Presentation & Judging Nov. 27 & 28, 2017
2	Green Ribbon Tips	Active ongoing	Data collection in progress quarterly 2017-18
3	DoDEA Worldwide Sunflower Project	7 th Grade participation	Completed Spring 2016

2. In the past five years, has your school, staff, students or student groups received any awards for environmental stewardship, student and staff health/wellness, or environmental education/civic programs?

(X) Yes () No If yes, provide award details below.

	Award	Awarded to	Awarded by	Year Received
1	Environmental Conservation Convention Overall Winner 1 st Place Grade 6 1 st Place Grade 7 1 st Place Grade 8	A. Stehley S. Zentz C. Tripp C. Mench	Spangdahlem MS	2017
2	“Dance For The Health of It” video contest	TBD	National Junior Honor Society	In progress 2 nd Quarter 2017
3	‘Turn Off the Lights’ Energy Conservation Switch plate Design Contest	T.Gill	Spangdahlem MS	2017
4	Upcycling Contest	J. Rodriguez	Spangdahlem MS	2016

Pillar 1: Reduce environmental impact and costs.

Element 1A: Reduced/eliminated greenhouse gas emissions, energy audits/emissions inventory/reduction plan, energy efficiency/conservation and improvements.

1. Which of the following programs or practices has your school implemented to conserve energy and to protect our environment from the negative effects of buildings and transportation? (Check all that apply)
- [X] Our school has an energy management plan in place that describes the steps we are taking, the key participants, our goals, and a schedule for conserving energy and reducing energy costs.
- [X] Our school energy use is tracked and benchmarked using EPA ENERGY STAR Portfolio Manager or an equivalent installation program.
- [X] 5% or more of the energy used at our school is obtained from on-site or off-site renewable energy sources.
2. Describe how your school programs, policies, and actions have reduced the amount of energy used in your building(s). Include data. Also include information about your efforts to protect our environment from greenhouse gas emissions, how you set your goals for reduction, and how you measure your progress. Work as needed with your installation energy program management team to get information about your energy use.

Per German renewable energy law (EEG law), 32.5% of the electricity delivered to Spangdahlem Air Base is generated from renewable sources. To cover the additional costs, an EEG surcharge of 0.06354 €/kWh



(\$0.0746/kWh) of the total delivered quantity is assessed. The estimated 2016 amount of the EEG fee for Spangdahlem is \$3,013,886. With this fee paid, Spangdahlem receives 32.5%, or 13,130,201 kWh, of its total kW usage (40,400,619 kWh) from renewable sources. In turn, the school receives 32.5% of its electricity from renewable sources. This would equate to approximately 15% of total energy if fuel oil is also considered.

Paired with this information, Spangdahlem Middle School has engaged in an effort to reduce consumption of electricity by turning off the lights in our classrooms and offices when available lighting is sufficient. We conducted a school wide contest for a student developed design to place above all light switches in the building to remind us to turn off the lights when not needed. This effort continues to have an impact on our attention to energy conservation.

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

1. Which of the following practices contribute to the protection and conservation of the school domestic (drinking) water? (Check all that apply)

- ☒ [X] We are served by an installation/privatized utility water provider that is required to report annually on the quality of our water.
- ☒ [X] Our building maintenance department cleans all water taps and drinking fountains on a regular basis to prevent bacterial contamination.
- ☒ [X] We have a water reduction plan in place that includes (check one that applies):
 - ☐ Low-flow water fixtures
 - ☐ Native drought-tolerant plants
 - ☒ Minimal or no landscape irrigation
- ☒ [X] Our school water use is tracked and benchmarked using EPA ENERGY STAR Portfolio Manager or an equivalent installation program.

2. Describe below how your school implemented and is maintaining your water conservation program including your baseline, your goal, and your reduction rate to date.

Spangdahlem Middle School (SMS) is served by the 52nd Fighter Wing's drinking water system. The installation's Civil Engineering squadron sends Bioenvironmental Technicians to our school, who provide monthly reports on the quality of our drinking water. Our cleaning service personnel provide daily cleaning of drinking fountains to include disinfection and being wiped clean of dirt, debris, and lime spots. Due to our climate and the design of our campus, no landscape irrigation is necessary to maintain beautiful evergreen surroundings. In connection with our military partners, we have begun to look at baseline data regarding water consumption. We have discussed current consumption data with our partners at the Spangdahlem Energy Support Team office and the 52d Civil Engineering Squadron. Data was obtained and analyzed to compare rates between SY 16-17 and SY 17-18. We have determined that our next step for promoting conservation will be to initiate discussions with personnel from DoDEA and the Energy Section at Spangdahlem to begin a reduction effort to involve all staff and students on the campus. The team of professionals from the school will include the administrator, administrative officer, supply services technician, and volunteer teacher committees. We are aspiring to create more formal plans with our community partners. Efforts have also been focused on educating our students regarding water conservation as an ongoing practice throughout health and science curricula and special projects. In 7th and 8th grade science classes, lesson titles have included: Natural Resources, Three Rs of Conservation, Hydroelectric Power, Alternatives to Fossil Fuels, Geothermal Energy, Non-renewable vs. Renewable Resources, and The Water Cycle. One educator presented his own research paper, Global Water Scarcity, about environmental change and sustainability to 7th and 8th graders. Many of our students focused on water conservation practices during the schoolwide Conservation Convention in November of 2017. One project titled "Navy Shower" included one student's plan to shorten showers by stopping the water flow while applying shampoos and soaps, then subsequently rinsing off. In written student evaluations after the Conservation Convention, numerous



students reported that the convention/projects had inspired them to shorten their showers, be mindful of limiting water usage, and to stop running the water while brushing their teeth. Some even commented that they had shared what they learned with siblings, family members, and friends.

Element 1C: Reduced solid/hazardous waste production (recycling/composting and reduced consumption and elimination of hazardous waste).

1. Which of the following programs has the school initiated and maintained to reduce solid waste, eliminate hazardous waste, and procure environmentally preferable products? (Check all that apply)
 - ☒ [X] Our school has initiated and maintained a solid waste management plan that includes waste reduction practices, collection of recyclable and compostable materials, elimination of hazardous waste, and preferred-purchasing requirements.
 - ☒ [X] Our recycling program collects every material that is collected on our installation.
 - ☒ [X] Our school only purchases office/classroom paper that is 50% or more post-consumer material.
 - ☒ [X] Our school only purchases office/classroom paper made of fibers from forests certified as responsibly managed in accordance with Forest Stewardship Council, Sustainable Forestry Initiative, or a comparable certification standard.
 - ☒ [X] Our school purchases office/classroom paper that is totally chlorine-free or processed chlorine free.
 - ☒ [X] All new furniture purchases are certified by the Business and Institutional Furniture Manufacturers Association or a comparable standard.
 - ☒ [X] Hazardous and dangerous products at our school have been reduced or eliminated.
 - ☒ [X] Hazardous, dangerous, and universal wastes at our school are handled and disposed of in accordance with Federal and state regulations.
2. Describe below your solid waste management plan, including goals, materials you collect to be recycled or composted, your current recycling rate, and how you calculated the recycling rate.

Efforts to recycle and educate students about environmental impact are school wide and continuous. During SY 16-17, the school wide upcycling contest was promoted in conjunction with the Creative Thinking classes to foster creativity and critical thinking about ways to reuse even the most unexpected items. Health students investigated single use plastics and their effects. A student-developed power point presentation about plastics is being utilized this year to educate all students about plastic consumption and the impact on the environment as well as personal health. Information is also connected with UN Global Goals 14 Life Below Water and 15 Life on Land as both land and water are overly polluted with plastics that are not biodegradable. Students also calculated the approximate amount of plastic utensils thrown away daily and their financial cost to our school and DoDEA. Collected items were used in Health Education classes where environmentally related health topics are discussed and appropriate projects and assignments completed. In cooperation with the AAFES cafeteria manager, students and administration campaigned to obtain reusable metal utensils for our cafeteria in SY 17-18. They have been obtained and will soon be used in place of single use plastics. Due to this transition, the potential impact of 195 students using 2 plastic utensils per day for 175 instructional days eliminates 68,250 single use plastics. According to the cafeteria manager, approximately 85 students eat in the cafeteria daily which is eliminates 29,750 plastics being thrown away.

DoDEA regulations are followed for purchase of classroom paper and furnishings. The paper purchased is made from recycled products in accordance with a certification standards required by DoDEA. It is also chlorine-free. In an effort to promote student and faculty awareness about recycling, 86 % of classrooms and offices dispose of paper through recycling. National Junior Honor Society members collect paper waste regularly and place it in the appropriate paper bin for collection. This is an increase over last year's number of participants (63%) with almost every classroom now participating. A labeled bin is provided for participants and once every two weeks, Student Council members collect



the paper and place it in the appropriate collection bin outside the building. Additionally, many teachers utilize Schoology and Google Apps as a way of reducing the amount of paper consumed. Online textbooks and activities are also incorporated into instruction and require no paper. Faculty information is also shared digitally.

During SY 2016-17, twenty boxes of paper were received by the school monthly. For SY 2017-18, the School Support Administrator has reduced the amount of paper per our need to 15 boxes per month. The school is currently only using 10 boxes of paper monthly. This is an overall reduction in paper consumption from 100 reams of paper monthly to 50 reams of paper monthly.

Solid Waste Management is implemented through the 52 FW's Integrated Solid Waste Management Plan (ISWMP). The ISWMP identifies waste reduction goals and procedures for waste disposal and recycling to meet the Air Force's required recycling requirements and waste reduction goals. The installation also has a Hazardous Waste Management Plan and SMS abides by the plan to ensure hazardous wastes are managed and disposed of properly.

Element 1D: Alternative transportation.

1. Our school provides the following alternative transportation options to driving in single occupancy vehicles to and from school. (Check all that apply)

- ☒ [X] Our school participates in a "Safe Routes to School" or similar program.
- ☒ [X] All school buses that serve our students were built after 1994 when the first emission standards were adopted.
- ☒ [X] Our school has a well-publicized no idling policy that applies to all vehicles including school buses.
- ☒ [X] Our school has a vehicle loading/unloading area(s) at least 25 feet from building air intakes, doors, and windows.
- ☐ [] Our school has a greenhouse gas emission reduction plan in place that targets transportation. We measure our annual progress against our reduction goal. *German regulations

2. Describe below the alternative transportation options to driving in a single occupancy vehicle to and from school.

With this year's transition of the high school to Spangdahlem Air Base, there is an increased number of students boarding buses at the middle school. In addition to the caution lights, bars have been placed so that the street is completely inaccessible in the afternoon during loading of the buses at the end of the school day. Buses are no longer required to transport students to Bitburg due to relocation of the high school to our campus.

Students who live on base have a safe lighted route for walking or riding their bikes to and from school with safe crosswalks designated. Bike riders are required by base regulations to wear helmets. They dismount bikes upon reaching campus and park them on the appropriate bike racks. There is a drop-off point behind the school where parents driving their students to school can safely drop-off and pick-up their students in the mornings and afternoons while buses are unloading or loading in the bus ramp located in front of the school. The faculty parking lot in front of the school is inaccessible during these times to ensure safety of students exiting or entering buses. Additionally, a caution light has been installed and operates in the morning when buses are arriving. In the afternoons the street is closed in front of our school to stop all traffic other than buses while the number of buses has doubled since last year. After school, students walking or riding their bikes have a designated route to follow for safety measures needed to deal with problems created with this year's sharing of buses with the elementary school. Our school buses are German owned and operated. Most were built after 1994 and meet the German regulations for emission. They are required to stop engines when they are parked for students loading and unloading. The bus loading ramp is located well away from the building air intakes, doors and windows.

Pillar 2: Improve the health and wellness of students and staff.

Element 2A: An integrated school environmental health program.

1. Which of the following programs or practices does your school implement to ensure the environmental health of the school community? (Check all that apply)
 - ☒ [X] Our school implements an up-to-date integrated pest management program.
 - ☒ [X] Our school has identified and properly removed sources of elemental mercury and prohibits its purchase and use in the school.
 - ☒ [X] Our school does not have any wood playground equipment or other structures that contain chromate copper arsenate or we have identified these structures and have taken steps to reduce exposure.
 - ☒ [X] Our school has a comprehensive green cleaning program.
 - ☒ [X] Our school has tested all frequently occupied rooms at or below ground level for radon gas and has fixed and retested all rooms with levels that tested at or above 4 pCi/L or our school was built with radon resistant construction features and tested to confirm levels below 4 pCi/L.
 - ☒ [X] Our school has a chemical management program in place, with elements of purchasing, inventory, storage, training, spills, and hazards communication.
2. Describe how your school implements and measures the success of your integrated environmental health programs and practices to ensure the health and safety of the school community.

The integrated environmental health programs are multifaceted and involve school teams, as well as local base agencies. Pest management is implemented at SMS through the 52 FW's Integrated Pest Management Plan (IPMP). This plan is a tool to reduce reliance on pesticides, to enhance environmental protection and to maximize the use of integrated pest management techniques. SMS uses the plan to obtain guidelines for health and environmental safety, pest identification and surveillance, pest management and pesticide storage, transportation, use and disposal. Bioenvironmental Engineering technicians perform microbial contamination testing for our drinking water monthly and ensure that systems are safe and in compliance with applicable regulations. Microbial Analysis Results are provided to our Facility Manager each month. Environmentally friendly cleaning supplies are used for the classroom and office areas. We do not have a high incidence of students or faculty with asthma. However, a few years ago, all carpeting was removed and replaced with other floor covering less likely to harbor allergens. The school nurse is the Blood borne Pathogens Program Coordinator and facilitates the mandatory annual training about reducing exposure to blood borne pathogens and utilizing appropriate personal protective equipment to limit exposure. Safety plans and workplace exposure procedures are reviewed annually with staff. Ongoing data collection occurs regarding health needs of staff and students through the health office. Trends about illnesses and injuries are analyzed and referred to the appropriate agencies, such as 52d MDG Public Health. The school nurse attends quarterly meetings with the 52d Med Group to coordinate care and resources regarding health programs and needs.

Our current Chemical Hygiene Officer, Joy Smith, has received training. Every science teacher at our school received Middle School Laboratory Safety training by our Chemical Hygiene Officer, April Goetz in 2016-17. Ms. Goetz spent two full days of training with the Flynn Scientific Middle School Laboratory which consisted of 40 separate video chapters and became Flynn Certified. All chemicals used in our school have a Material Safety Data Sheet which all science teachers and our building maintenance personnel have access to if the need should arise. Our school does not contain any chemicals requiring special precautions, nor do our lab experiments require a chemical fume hood. We do not have any volatile chemicals in our inventory. Our school has a Chemical Hygiene Plan in place that is in compliance with the Federal Laboratory Standard and DoDEA Regulation 4800.4. Our plan includes our Standard Operating Procedures, Employee Training, Exposure Evaluations, Medical Evaluation, Monitoring and an Emergency Evacuation Plan.



Element 2B: High standards of nutrition, fitness, and quality outdoor time for both students and staff.

1. Which of the following programs or practices does your school implement to promote nutrition, physical activity, and overall school community health? (Check all that apply)

- ☒ [X] Our school participates in the Healthy Child Program.
- ☒ [X] Our school participates in the U.S. Department of Agriculture's Healthier School Challenge.
- ☒ [X] Over the past year, our students spent an average of at least 120 minutes per week (for middle and high schools) or 90 minutes per week (for elementary schools) in school supervised physical education.
- ☒ [X] At least 50% of our students' annual physical education and physical activity (including recess) takes place outdoors.
- ☒ [X] At least 50% of our students have participated in the EPA's Sunwise or equivalent program (to protect students from skin cancer).
- ☒ [X] Our school integrates health measures into student assessments.
- ☒ [X] Health, counseling and psychological services are offered for both students and staff
- ☒ [X] Families/communities are involved in an integrated school environmental health program

2. Describe below how your school implements high standards of nutrition, fitness, quality outdoor time and overall health and wellness for both students and staff.

SMS strives to maximize all opportunities for wellness within our school and base community, as well as focus on quality of life. Instruction about nutrition and fitness are major components of the health program with the focus on UN Global Goals 2 No Hunger and 3 Good Health. This year's health classes have been visited by the Med Group's Health Promotions team to discuss healthier choices when selecting foods. They are encouraged to decrease consumption of processed foods while increasing intake of whole foods. Students evaluated meals to compare their choices based on percentage of sodium, sugar, nutritive value, packaging and transportation costs. In class, students evaluated their personal eating habits by utilizing the Supertracker on the Choosemyplate.gov website. They set personal goals for improvement. A "More Matters Fun Run" was held to promote both physical activity and nutrition knowledge in September 2017 with over 70 people participating. Students, family members and volunteers from PTSA and Health Promotions helped make the event a success. National Junior Honor Society and Student Council partnered by hosting a Back to School Dance in continued promotion of physical activity. Over half of the students were in attendance! Students in health classes spend a portion of the class taking a physical break with dance and movement activities. A schoolwide contest is underway where groups of two to eight student will produce their own videos for use in other classrooms. Daily health and wellness tips and promotion of Meatless Monday are read to the students in the morning announcements, shared with parents in the Bulldog Byte newsletter, and promoted through social media. Two yearlong sections of Physical Education have been included in this year's course offerings providing students additional time for activity. The class incorporates practice and study of physical activities and lifetime sports.

The faculty is in the second year of professional development directed at better understanding and educating the middle school child. This year's focus is on creating and carrying out an advisory program where students are divided into smaller groups that meet sixteen times per year and promote the whole child in regards to mental, emotional, social and physical development.

With the implementation of our new Advisory Program, the 8th grade advisory team is planning for physical activities for our third segment of the year. Not only will this assist students in completing the end of the school year more energetically, it will also serve to promote staying physically active over the summer break.

AVID classes participate in service learning with the elementary school. They walk to and from the elementary school which promotes their own physical well-being. The AVID students read to and with the elementary students. Overall social, mental and emotional health are benefits for both middle school and elementary school students through this civic service opportunity. The AVID students are also involved with the community by participating in Service Credit Union and their CU4Reality program.

Our students are enrolled in one quarter (9 weeks) each of both Health and Physical Education classes as part of our required curriculum following the DoDEA standards. Additionally, the Health Education program utilizes the whole school, whole community, whole child approach to promote a healthy and safe school environment that includes family and community involvement engaging students as active participants in their learning and health. Through the Physical Education classes, lunch-time recess and physical activities incorporated in other classrooms our students spend an average of 120 minutes per week in supervised physical education and an average of 50 minutes of recess outside. Fitness Gram format is part of the evaluation of student progress in Physical Education classes. Additionally, students walk/bike ride to and from school and participate in community offered sports/dance programs. Instruction about protection from skin cancer and protection from the sun is included in the Health classes. The school counselor, psychologist, nurse, and health teacher offer assistance and services to students and faculty. New group counseling sessions are provided quarterly to all students on the required exploratory wheel for instruction in topics such as social development, suicide prevention and bullying. A parent support group for middle and elementary school parents has been created and meets monthly. Counselors, nurses and psychologist for both schools are there to assist the parents. National Junior Honor Society offers child care for attending parents as part of integrating the school, family and community in the health program.

Pillar 3: Effective environmental and sustainability education which incorporates STEM linked to environmental and sustainable learning, civic skills, and green career pathways.

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

1. Describe below how your school integrates and assesses/measures students' environmental or sustainability literacy at each grade level including curriculum, courses, outdoor learning, and assessments.

Our teams implement and evaluate environmental knowledge in multiple ways. The after school Environmental Club, sponsored by the art teacher, researched environmental issues currently facing our planet. Students created junk assemblages similar to those of artist Louise Nevelson. The club also made self-watering flower pots and planted marigolds. Art classes continuously create wonderful projects by recycling/upcycling items such as newsprint, and glass and plastic bottles.

Eighth grade health students developed a tool to be used with this year's students to bring awareness to simple habits that can help reduce our impact on the environment. After instruction about our impact on the environment and the environment's impact on our health, students are asked to complete the Google Form to show what habits they and their family already use to have a personal impact. Students are encouraged to grow in personal development of habits that promote a green and sustainable world.

Green Tips Google Form is being completed by each student through their health class. This is a collection of data to indicate what green habits students and their families already practice and to encourage them to include more in their lives. This data will be used to collect a baseline of community practice as it pertains to current trends and will guide future decisions about content integration into the curriculum.



The 8th Grade Advisory team is developing service instruction and opportunities for our second grouping of advisory activities. This is intended to promote students' civic responsibility through service and volunteerism. The initial advisory activity will be a briefing from the American Red Cross to educate students about how they can serve on base through this organization. Individual and group service projects will be planned and carried out beginning in December 2017. Eighth grade students also participated in a study trip to the Teufelsschlucht (Nature Park) that met standards in Health, Science, Language Arts and Art and promoted concern for the environment.

SMS cooperates with the 52 FW's environmental office on various environmental events. Workshops and presentations are conducted regularly with the SMS students on environmental related topics like waste management and minimization, sustainable development and nature conservation. SMS cooperated with the environmental office on an "Upcycling Contest". This competition encouraged students to repurpose waste materials into useable products. Three female students led the way in creativity and design for this contest. Our first place winner designed a pencil case from a chip bag, complete with lined material. This student previously created many reusable products and continued to inspire other students after the contest with her creativity. Second place was awarded to a student who converted ordinary items, such as oatmeal cans and plastic water bottles, into drums and a pencil case. The third place winner used old cassette tapes to make a small wallet, which she named a 'cassallet'.

All students in grades six through eight are enrolled in one quarter of Health Education per year. The DoDEA standards are utilized and focus is given to the United Nations Global Goals concerning health literacy, wellness, education, environment and sustainability. Instruction and assignments are provided to connect these ideas and promote development of habits that are beneficial to the individual and the world. Opportunities are provided in math and science classes for outdoor learning. The science curriculum and Stempodium work to develop student literacy pertaining to the environment and sustainability. Student science portfolios are one method of student assessment. Sixth graders utilized the distance formula ($d=r*t$) stop watches, and rulers to measure the distances paper airplanes could travel to connect with STEM careers.

2. Describe below the professional development opportunities available to your teachers in environmental and sustainability concepts and the number and percentage of teachers who participated in these opportunities during the past 12 months.

Our professional development opportunities have grown and blossomed into well-integrated, interdisciplinary presentations under the Continuous School Improvement team leadership. 91% of the faculty was briefed by Mr. Goetz briefed during our November 13 CSI Day about the cost of weather related disasters over the past decade--350 billion dollars by the U.S. government alone. Faculty viewed a quick Colgate ad about how easy it is to reduce water usage. He then explained the different categories that would be involved during the Conservation Convention. On written evaluations post-convention, students have reported that they greatly enjoyed the event and have plans to implement the practices shared by other students such as shortened showers, brushing teeth with the water off, using less plastic water bottles, turning off the lights/electricity more, decreasing waste, and even sharing these ideas with their family members and friends.

Our principal has attended the Cross Functional Team, which is the 52 FW environmental working group. The CFT reports to the Environmental, Safety and Occupational Health Council (ESOHC). The ESOHC is chaired by the 52 FW/CC. The CFT helps ensure environmental compliance and measure environmental performance. The CFT is a collaborative working group composed of environmental subject matter experts and Unit Environmental Coordinators from operational functions and tenants. Our principal gained a better understanding of the Spangdahlem Environmental Management System to include waste management, recycling, and water treatment. Information was gained on the partnership with the host nation and how the base remains compliant with both US and German requirements. Additionally, the concept of America Recycles was discussed and plans made for the base to participate in November. The main function was to bring awareness and coordinate continued education opportunities. This



opportunity allowed our principal to strengthen partnerships that can create future integration of real world application of environmental and sustainability concepts. The coordination and partnership is powerful when these concepts can be connected to current careers in action.

Two teachers instructing 7th Grade Math and Science classes participated in the DoDEA Worldwide Sunflower Project during the spring semester of 2016. The project involved over 3,000 students and 140 teachers in 45 locations around the world. The goal was to examine and understand how plant growth is affected by location and the environment.

The Specialist Department collaborates during our newly designated collaboration time to focus on environmental and sustainability issues. We gain insight from our Host Nation (local national) instructor about Germany's accomplishments toward sustainability in this area. We discuss ways that we can implement best practices within our curricula to promote the concepts with our students and extend our learning to them. The art teacher has incorporated many projects utilizing repurposed items and even items considered trash, which made beautiful works of art for display. As a result of collaboration and health/wellness goals, a new PE elective class was built into the schedule for SY 17-18. Many eager 7th and 8th grade students signed up to have PE for the entire year, in addition to their quarter rotation. This results in 21% of our student population participating in a year-long PE class, which meets for an hour and a half every other day. Other topics discussed in collaboration were implemented as school wide projects with other teams, such as the Upcycling Contest, More Matters Run and the Conservation Convention. The teachers have put into practice new habits to serve as role models to our students, to include a Bountiful Baskets vegetable co-op program, participating in base runs, bringing utensils from home to eliminate plastic waste, and pursuing fitness goals by utilizing the new onsite cardio fitness equipment. Forty percent of our teachers are represented by the Specialist Team and the counselor, MFLAC, speech pathologist, nurse, and educational technologist often participate with the team.

As a result of these systemic efforts in our school, a green focus has become prevalent in classroom instruction throughout all learning environments.

Element 3B: Use of the environment and sustainability to develop sustainability content knowledge, and civic thinking skills to prepare graduates for the 21st century technology-driven economy.

1. Describe below how environmental and sustainability education at your school is embedded in teaching science and engineering practices (e.g., asking questions, developing and using models, planning and carrying out investigations, analyzing and interpreting data, using mathematics and computational thinking, constructing explanations, and engaging in argument from evidence) and supports robust general science education that includes a deep understanding of life, physical, and earth sciences.

The purpose of the Conservation Convention was to increase students' awareness of Climate Change and their personal involvement and responsibility for the future. Students will increase their understanding that simple lifestyle changes can reduce their carbon footprints and thus help slow climate change. This was a school-wide convention, and every student was required to develop a suggestion that advertises some sort of life-style change that contributes to the reduction of our collective carbon footprint. These selections were displayed in a trifold format that includes the suggestion - with illustrations and/or models, and specific documentation as to how this suggestion reduces greenhouse gases. The projects were judged by German host nation environmental engineers employed by our base and winners of the competition were recognized during lunch in front of the entire student body on November 30, 2017. The 1st place winner was a sixth grade student who created an iPhone projector, which turned his iPhone into a movie projector. Other winners from the grade levels included green cleaning projects, 'Poop Paper' from recycled animal waste, the 'Navy Shower' for water conservation, a vertical garden, 'Plastic to Plarn' for reusing plastic bags, an automatic recycling can, and a plastic bottle planter for gardening.

Seventh and Eighth Grade Science classes have focused instruction on conserving resources. In addition to the DoDEA 6-8 Science and Math curricula, classes are also offered in Applied Technology, Computer Applications, Introduction to Programming and AVID. Each of the courses contributes to student acquisition and mastery of 21st century skills to promote understanding of all areas of science. Fraction Bootcamp was held last year and will be held this year to build on critical math skills. Community volunteers, parents, and teachers reviewed fraction skills with students while providing healthy snacks and fun physical fitness activities, illustrating for students how physical fitness can be integrated into academics for a beneficial, invigorating way of life. Students participate in Math Counts, which is a forward thinking program focused on building confidence, problem solving skills, and future leaders for the careers of the future. Our school hosted the district Stemposium in 2016 and was part of the planning team for 2017's Stemposium for our district. Stemposium is a DoDEA sponsored event for Europe's schools in which students are competitively selected to attend and dive into science, technology, and mathematics challenges for 48 straight hours. In April 2016, our school hosted this event titled 'Marooned on Mars' and welcomed students from all across Europe. Students were challenged to design a spacesuit, landing station, and a greenhouse location to grow food, among many other engaging problem solving activities. The Spangdahlem AB Weather Crew provided fascinating information and teaching to students about Mars. Students participated in the Hour of Code using Scratch editor to create a basic video game application. Introduction to Programming students completed Snowflake Coding provided with a written computer program and asked to run the program which resulted in creation of snowflakes!

All of these clubs, activities, and skill sets prepare students for the impact they may have in a 21st century technology-driven economy; one in which content knowledge about sustainability and care of our environment is paramount.

2. Describe below how your curriculum connects classroom content to career and college readiness, particularly postsecondary options that focus on environmental and sustainability field studies and/or careers.

SMS connects classroom content to career and college readiness with focus on environmental and sustainability through a variety of instructional lessons, course opportunities, guest speakers, and community partnerships. Our military partners visit classes and discuss their professional careers and provide the students with insight into STEM careers and educational opportunities. Members of the Med Group share their careers with health classes. The opportunities have inspired students to begin thinking about their future college and or career goals. Some of the guest speakers from around the base have included the following: Explosive Ordnance Flight with the 3D printer, robots and technology tools; the 52d Civil Engineering environmental element who informed students about environmental careers and conservation projects around base; multiple medical professionals who have shared about technology in medical sciences and the impact on personal health and the future of treating disease; American Red Cross volunteers who taught about disaster planning and CPR skills; Health Promotions professionals shared about diet and obesity trends, as well as simple changes students and families can make with food and exercise choices; and multiple base commanders and leaders participated in Read Across DoDEA (America) day by sharing informational text from their respective career fields, illustrating the importance of being a lifelong learner and how topics studied in coursework now relate to college and career readiness.

Element 3C: Development of civic engagement knowledge and skills, and students' application of these to address sustainability and environmental issues in their community.

Describe below your students' civic and/or community engagement experiences integrating environmental and sustainability topics/concepts, field studies, community service, etc.

Students are briefed each school year in an assembly about the long service history of Civil Air Patrol (CAP) and how this organization serves the homeland. Many students have joined CAP as cadets for the extensive education about aviation and related fields, to include aerospace and STEM Education. American Red Cross has taken an active role in engaging with students at the middle school through visiting classrooms, sending volunteers, and offering Babysitter



Course training, CPR training, and disaster preparedness instruction. Numerous students have taken part in volunteer opportunities in the community as a result. One 8th grade student logged over 30 hours volunteering with the local German chapter of the Red Cross, to include assisting at a nearby refugee camp.

Eighth grade advisory classes will focus on school and community service as the theme for our upcoming advisory meetings. They will begin with a briefing from The Red Cross and how youth can be involved more on base. Students from the recent DoDEA Europe Junior Leadership Seminar have recently returned from the study trip with an approved proposal to complete a service project focused on creating a garden at school for fruits and vegetables, partnering with base agencies and school staff to complete their goals.

Health Education students in all grade levels are participating in instruction, research and projects to gain knowledge about environmental issues as connected to the United Nations Global Goals. The activities and research generated each quarter are continued and expanded with successive classes throughout the year. First quarter students have generated visuals and a Google Form that will be shared for input of current environmentally friendly habits students and families practice. A student produced video is being prepared for school wide viewing and promotion of Green Ribbon tenets. Students are also researching plastics and their impact on the environment from use of fossil fuels, creation and disposal.

At Spangdahlem Middle School, we strive for continual growth and opportunities to create a culture where students feel safe to explore new ideas, tap into their creativity, and impact the world around them. Through collaborative partnerships among students, staff, and the base community at large we are experiencing a shift in how our school operates and views the environment. We are thrilled about the impact we have had to positively affect change thus far, and are certain that our momentum will continue to build and have greater influence in the future.