Barker Central School District
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Smart Schools Investment Plan #2-1617

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BARKER CENTRAL SCHOOL DISTRICT SMART SCHOOLS INVESTMENT PLAN STAKEHOLDERS

Miss Casey A'Hearn	Barker Junior/Senior High Student
Mr. Randall Atwater	Board of Education
Mr. William Bodine	District Technology
Mr. James Cantella	Barker Junior/Senior High Teacher
Mrs. Teena Clark	Barker Junior/Senior High Teacher
Mrs. Kathryn Class	Parent
Mrs. Mary Jo Clemens-Harris	Board of Education
Mr. Jeffrey Costello	District Technology
Mr. Noah DiLorenzo	Barker Junior/Senior High Student
Mrs. Mary Dudek	Barker Junior/Senior High Teacher
Mrs. Heather Ecker	Board of Education
Mrs. Deborah Farese	Director of Instructional Services
Mrs. Candice Gancasz	Board of Education
Mrs. Erin Goodlander	Parent
Mrs. Mary Grabowski	Barker Junior/Senior High Teacher
Mrs. Carol Heiligenthaler	School Business Administrator
Mr. John Hoar	Pratt Elementary School Principal
Dr. Roger J. Klatt	Superintendent of Schools
Mrs. Sharon Lamb	Barker Junior/Senior High Teacher
Mr. James Luckman	Director of Technology & Assessment
Mrs. Tracey Luckman	Pratt Elementary School Teacher
Mrs. Loriann Martell	Barker Junior/Senior High Teacher
Mr. Mark McKee	Community Member
Mr. Louis Mead	Board of Education
Mrs. Leslie Mocarski	Pratt Elementary School Teacher
Mrs. Janet Morrow	Barker School Librarian
Mr. Bradley Pritchard	Barker Junior/Senior High School Principal
Mrs. Janice Stoll	District Business Office
Mr. John Sweeney Jr.	Board of Education
Mrs. Sara Thibault	Pratt Elementary School Teacher
Mrs. Lisa Thompson	Community, Barker Public Library Director
Mrs. Virginia Voss	Board of Education

I. BANDWIDTH PRECONDITION

As a precondition to utilizing allocated Smart Schools Bond Act funds the District has confirmed that current bandwidth exceeds the Federal Communications Commission minimum speed standard of 100 Mbps per 1,000 students to sustain the increase of classroom devices. The Barker Central School District is currently equipped with a high speed 10 GB LAN and 1 GB WAN access through Erie 1 BOCES. A robust Wi-Fi network is currently installed to provide sufficient bandwidth to meet user demand and provide seamless connectivity for staff and student wireless devices.

- District student enrollment: 819
- District instructional staff: 76.5
- District non-instructional staff: 41

II. NETWORK INFRASTRUCTURE

Network infrastructure including wireless access has been upgraded over the last five years and a plan to expand the wireless capacity using E-rate funds has been approved for the District by the Universal Service Administrative Company. The expansion project is currently in process and will be complete by March 2017. While current wireless access adequately provides high levels of throughput for devices, the upgraded wireless system will provide improved speed and reliability for additional devices. Network traffic is regularly monitored and managed to provide high quality transmission for all devices.

III. INSTRUCTIONAL TECHNOLOGY PLAN & SMART SCHOOLS INVESTMENT PLAN OVERVIEW

The Barker Central School District was allocated $596,160 as part of the Smart Schools Bond Act passed in 2014 by a state wide referendum. The Smart Schools Bond Act (SSBA) supports educational technology and infrastructure to improve teaching and learning. The plan offers funding in four main areas: construct or modernize educational facilities for pre-kindergarten students, install high-speed broadband or wireless, install high-tech security features and acquire classroom technology equipment.

The New York State Education Department has provided required elements for the Smart Schools Investment Plan including demonstration of student needs, internet connectivity and network speed

requirements, professional development, technical support and sustainability of projects. The Barker Central School District developed the District Instructional Technology Plan and completed the NYSED Technology Survey Tool in compliance with Section 753 of the Education Law and per Part 100.12 of the Commissioner's Regulations. The Barker Central School Instructional Technology Plan includes the blueprint for technology integration with curriculum, professional development, infrastructure improvements, hardware upgrades, technical support and methods of evaluation. The District received notification dated January 22, 2016 from the New York State Education Department that the 2015-2018 Instructional Technology Plan was approved.

The Instructional Technology Plan adopted by the District provides goals to utilize funds to further enhance teaching and learning through acquisition of classroom technology equipment. Barker Central School District's vision is to prepare students to live in a sophisticated digital society. The commitment to providing access to technology tools to engage learners, support instructional practices and to deliver opportunity for digital literacy proficiency are of primary importance for teaching and learning. School buildings are equipped with classroom desktop computers, computer labs, mobile device carts and some interactive classroom equipment. Educational software and applications provide a digital learning environment interface to support instruction, curriculum and learning.

The district has consulted with the stakeholders and they have developed this preliminary Smart Schools Investment Plan and seek approval from the Board of Education. This preliminary plan will be posted to the District's website for a minimum of 30 days. The school's mailing address will be provided for those wishing to submit written comments. A public hearing will take place at a future Board of Education meeting that will address responses and receive community feedback. Notice of this public hearing will be provided through local media and the District's website for at least two weeks prior to the meeting. The stakeholders will review feedback and prepare a final plan for the Board of Education to approve. The final approved plan will be posted to the District website and submitted to the New York State Education Department for review.

IV. ALLOCATED FUNDING PURCHASE PROPOSAL: DEVICES

The District is pursuing approval for use of $176,458 of allocated funds in the budget category identified in the following chart.

Budget Category	Barker Central School District
School Connectivity	$0
Connectivity Projects for Communities	$0
Classroom Technology	$176,458
Pre-Kindergarten Classrooms	$0
Replace Transportable Classrooms	$0
High-Tech Security Features	$0

CLASSROOM TECHNOLOGY

The District will seek approval for purchases in the classroom technology category. The District plans to purchase 70" interactive panels to drive classroom instruction and enhance learning opportunities for students. The interactive panels will replace current projector and screen technology to provide optimal support of mobile device integration and interactivity for teaching and learning. The interactive panels will be compatible with existing mobile device implementations including Chromebooks, iPads, Apple TV, laptops and Microsoft surface tablets. These interactive panels will also provide a seamless interface between desktop computers and use of instructional software including Google classroom, Microsoft Office 365, Schoology, Edmodo, web based instructional resources, digital literacy solutions, digital citizenship initiatives, online assessment readiness, real-time review and formative assessment applications and presentation of student work and instructional materials. These devices will be compatible with our current network infrastructure including hardwire connection to our local area network. Classroom interactive panels support innovative classroom initiatives, collaboration, blended learning, virtual learning spaces and digital learning management systems to assist in the development of readiness for college and career.

The implementation of digital classroom solutions and learning management systems for teachers increases the need for student device accessibility. The District currently uses mobile

devices, but seeks to provide greater access to support the adoption of learning management systems and digital instructional strategies. To support teaching and learning in each school building through provision of mobile computing access for teachers and students, this proposal includes the acquisition of Chromebooks and secure charging carts. These mobile devices will extend learning opportunities for students and develop transparency with computer literacy skills and access to digital content and assignments. The potential for collaborative work with pairing mobile and digital learning initiatives will continue to develop as a powerful tool to improve learning.

The District also seeks approval for the acquisition of classroom, sound field system technology to improve the teaching and learning environment. Students in classrooms may encounter sound distractions that interfere with instruction. Sound field systems carefully implemented in classrooms with quality mixing and amplification devices can assist in effectively delivering voice and other selected media throughout the listening environment. These systems greatly enhance speech understanding and provide an even distribution of sound from the teacher, the students and any equipment delivering sound. This classroom technology helps students hear clearly and improves attentiveness, concentration, comprehension and participation.

District initiatives to implement and integrate STEM education pairs with investment in classroom technology equipment. LEGO MINDSTORMS is a programmable robotics construction set offering power to build, program and command LEGO robots. The implementation of this curriculum and classroom technology with our middle level students will provide foundational knowledge of programming and construction to support this motivating, engaging and real-world initiative. The acquisition of this classroom technology equipment will support this inquiry-based, student-centered environment and promote critical, creative and innovative thinking.

SCHOOL CONNECTIVITY

Barker Central School District is not submitting an investment plan for this category at this time.

CONNECTIVITY PROJECTS FOR COMMUNITIES

Barker Central School District is not submitting an investment plan for this category at this time.

PRE-KINDERGARTEN CLASSROOMS

Barker Central School District is not submitting an investment plan for this category at this time.

REPLACE TRANSPORTABLE CLASSROOMS

Barker Central School District is not submitting an investment plan for this category at this time.

HIGH TECH SECURITY FEATURES

Barker Central School District is not submitting an investment plan for this category at this time.

V. STUDENT LEARNING

The District has worked to implement technology tools and a wide range of technology related resources to improve instructional practices and provide new learning opportunities across the District. Technology can be an influential tool for actively engaging learners at all levels. The use of technology tools in the classroom allow teachers to individualize learning and provide differentiated instructional techniques tailored to the needs of each student. Technological tools can help transform learning processes and provide extensions for content, review, collaboration, assessment and access. District staff continually identify achievement gaps and focuses technology implementations to improve these areas. The District Director of Instructional Services works collaboratively with the technology staff to provide assistive technology tools as needs are determined.

English Language Learners will be provided with specialized interactive applications and learning tools to develop proficiency with this alternative learning interface. District Special Education, Response to Intervention and student management systems will keep instructional staff aware of special needs, individualized education program requirements, interventions and special program initiatives for students. Instructional and identified support staff will be provided with special needs classifications and guidelines.

Interactive classroom panel technology will increase student engagement and provide opportunities to enhance differentiated instruction through the provision of simultaneous, multi-touch student manipulation, small group work centers or whole group instruction. Multimedia presentations can be

tailored for individual students. Students needing support can use the interactive panels independently in a format that is challenging yet engaging for students. Students can be provided with individual support and enrichment, as necessary, through the use of video presentations or interactive apps to help solve problems and provide enhanced differentiated instruction.

The acquisition of additional mobile devices and student personal devices connecting with the interactive panels will support flipped learning initiatives, presentation of work and real-time, formative assessments. The opportunity for integration of blended instructional practices, collaboration and virtual experiences will expand teaching and learning strategies. The contribution of this versatile technology tool will assist in reducing learning gaps and provide ease of access and integration of instructional software resources. Student access to Chromebooks, iPads, laptops, Surface tablets and other tools will provide greater interactivity, support learning mechanisms and facilitate effective learning management system initiatives and digital classroom implementations. Students with disabilities will experience increased access in an enhanced learning environment through the versatility of the panel as a collaborative table device or specialized configurations. Mobile devices and interactive classroom panels provide alternative and stimulating interfaces to enhance the learning experience for student with specialized learning needs. Technology accommodations will be provided as determined for each student to allow access to physical, behavioral or educational programs and applications required to meet individual needs.

This proposed technology purchase will assist the district in the implementation of the New York State Common Core Learning Standards. The WHST.6-12.6 Common Core Learning Standard for students in grades 6-12 includes the use of technology, including the Internet, to produce, publish and present information and ideas clearly, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically. The interactive panels are able to link multiple areas including, but not limited to, the Internet and device apps so that students can display their work or present writing products in order to engage a response and receive ongoing feedback. The interactive panel has the ability to allow students to present ideas using multimedia, including the internet, to present and publish work that they have created whether it is written, digital video, or photography format. Students can visually display created work to parents and other stakeholders in a digital and visual format. The Common Core Reading Standard RH.6-12.7 requires students to be able to integrate technical information expressed in words to be expressed visually and to use media in order to address a

question or solve a problem. The interactive panel technology will allow teachers and students to gather video and multimedia information and be able to include visuals to translate information expressed verbally to a visual format. College and Career Readiness Anchor Standards for Writing (#6 & #8) also directs students to use technology, including the Internet, to produce and publish writing and to interact and collaborate with others. The interactive panel technology provides an excellent vehicle for the production and presentation of student generated work.

Implementation of classroom interactive panels and mobile devices will expand student learning through access to external learning resources and accessibility to instructional content, assignments, collaborative projects, digital literacy skill development and CBT readiness. The Internet compatible interactive classroom panels will allow videos and other multimedia presentations to transparently integrate with instructional practices and software. The panels will communicate with devices the district currently manages and students can take advantage of personally owned devices and new virtual learning opportunities. The interactive panels will allow students to collaborate with others, research, collect data, and communicate with experts. This hands-on learning will engage all students, impacting at-risk, special needs and the general education population.

VI. COMMUNICATION

The proposal for classroom technology through the Smart Schools Bond Act will greatly increase capacity for teaching and learning through the facilitation of blended learning, distance learning opportunities, online conferencing and homebound instruction. The purchase of the interactive classroom panels and mobile computing devices will enhance ongoing communication with students and parents through the implementation of online, digital classroom environments where students and parents can access course descriptions, assignments, grades, content, assessments, presentations, resources and interact with the classroom teacher(s). The facilitation of technology-based regional partnerships can be fostered through the inclusion of distance learning and blended learning initiatives provided through the panel interface. The interactive panels will provide an engaging experience for virtual fieldtrips, video conferencing, collaborative projects and live announcements throughout the district. The interactive panels allow students to present work to parents and other stakeholders. As they are Internet compatible, they would facilitate communication via Skype or other programs such that students and teachers can communicate with regional partners. The use of mobile devices for the purpose of communication will become instrumental for access of digital content and resources from

any location including the ability to download content for use in an area where Internet may not be available. This is extremely important as this is a rural district and direct communication is limited due to distance. The development of community technology awareness training sessions, adult education programs and student technology fairs to show-case projects and initiatives will be an extension of the instructional devices acquired to communicate and educate parents and community members. The district is also working with several higher learning institutions include Niagara County Community College, Niagara University, University at Buffalo and Rochester Institute of Technology to provide higher and advanced learning experiences for our students.

VII. PROFESSIONAL DEVELOPMENT

Professional development is a critical component of the District Instructional Technology Plan and the District Smart Schools Investment Plan. The commitment to provide professional development in a variety of ways allows staff to learn how to utilize technology tools and resources to develop innovative instructional methods. Technology related professional development is offered through a variety of ways on a continued basis throughout the school year and summer months.

Interactive classroom panels and mobile computing devices will be acquired for classrooms throughout the Barker Central School District. With the installation of the panels, teachers will receive professional development, which will provide training for full use of the interactive capabilities of the panels. The District has invested in fully synchronized, enterprise solutions for Google Education, Microsoft Office 365 and Schoology to provide digital learning platforms for all students and staff. Training on all of these systems is available to all teachers and formalized training occurs in classrooms for students. BOCES and school technology trainers hold workshops for students, teachers, administrators, staff, parents and community members. Primary level teachers explore how the panels can be used with young learners with an emphasis on software to design interactive lesson content and the integration of digital instructional resources. Separate training sessions for special education and academic intervention specialists are offered on how to best implement the use of the panels and Chromebooks to maximize student results and accommodate various learning modalities.

The District works closely with Erie 1 BOCES trainers through the Common Set of Learning Objectives COSER to deliver individual and group training integrating specific technology tools with curriculum and aligning infused lessons with technology learning standards and digital literacy benchmarks. District staff

offer technology training sessions after regular school hours and provide training opportunities to district residents through the District Community Education Program. Local BOCES professional development opportunities are available for all district staff and specialized training opportunities are provided as necessary. The District is currently considering options for additional technology integration training and support as new technology is acquired and implemented through new funding opportunities. Professional development release time will be coordinated with staff through the use of substitute teachers and identified professional development conference days for investigation of new technology and specific training. Erie 1 BOCES and Orleans Niagara BOCES technology specialists and trainers will assist in the establishment of turn-key trainers in the use of the new interactive panels and develop strategies for curriculum integration and development.

Barker Central School District will provide time and access for all instructional staff with the means to develop a high level of proficiency with use of interactive panels, software, curricular integration and use of all integrated technology components. Professional development costs have been budgeted to provide complete training in the use of interactive classroom panel software, classroom devices, digital classroom solutions and curriculum development to support a complete solution for integration of these devices. Training will be made available during the summer months to prepare for a seamless implementation for the school year and continuous support and training will occur throughout the year before, during and after school hours as determined necessary. Technical support personnel will also be trained in the use and maintenance for the interactive classroom panels to properly support and troubleshoot any issues instructional staff encounter. Technology turn-key trainers will be provided the opportunity to attend specialized technology conferences, i.e. NYSCATE (New York State Association for Computers and Technologies in Education) conference, to remain current with educational technology trends and resources. Instructional staff will be supported to develop the skills and knowledge necessary to accommodate diverse student population needs. The panels will provide a vehicle to deliver online, on-demand professional development and teleconferencing which will reduce the need to travel to an external location for training classes and meetings.

The following list outlines training topics to be provided for all staff who receive interactive classroom panels. This training will also be made available to all staff in the district and special training sessions for students will also be developed and provided.

- Interactive Classroom Panel Functionality Training
- Snowflake Software to enhance instructional strategies
- SMART Notebook Software lesson plan development
- Microsoft Office 365 & Classroom curricular integration
- Google Drive, Apps & Classroom curricular integration
- Schoology Digital Classroom & Learning Management System development
- Classroom mobile device management & integration
- Document Camera training
- Online Safety Awareness & Resources
- Digital Copyright Awareness & Resources
- Digital Content, Video Lessons & Annotation to enhance digital classroom resources
- Instructional Technology Coaching for curricular technology integration development
- Other specific training opportunities for teachers, staff, students and parents as determined

VIII. CONTACT WITH SUNY

The Barker Central School District has contacted Dr. Wendy Paterson, School of Education Dean at Buffalo State College as required by the Smart Schools Bond Act to request advice on innovative uses and best practices at the intersection of pedagogy and educational technology. The District has been working collaboratively with Niagara County Community College, Niagara University, University at Buffalo and Rochester Institute of Technology on blended learning and P16 college readiness initiatives.

IX. LOANING HARDWARE TO NON-PUBLIC SCHOOLS

The Smart Schools Bond Act provides that any district hardware purchases made using Smart Schools Bond Act funds shall be lent, upon request, to non-public schools in the district. All students attending non-public schools are eligible to receive loans of classroom technology equal on a per pupil basis to the per pupil amounts spent on classroom technology for public school students (up to $250 per pupil). The District does not include any non-public schools at this time.

X. SUSTAINABILITY PLAN

The sustainability of any technology related implementation is of paramount importance to the Barker Central School District. The District Instructional Technology Plan outlines a design for hardware

replacement cycles, maintenance of supportive infrastructure and continued professional development initiatives. The District Instructional Technology Plan goals demonstrate the district's capacity and plan to support recurring costs of use that are ineligible for Smart Schools Bond Act funding. Additional support staff recommendations will be budgeted and planned for to provide proper service and maintenance for the operation of equipment, professional development, technical training, wireless access, building maintenance and other incidental item maintenance or replacement. The district continues to investigate grant opportunities to provide funding to complement technology initiatives. The current technology staff at Barker Central School District is provided through the annual district budget and can sufficiently support and maintain the implementation of interactive classroom panels throughout the district. As technology resources are acquired, revisions to the Instructional Technology Plan reflect the long-term replacement strategy of purchased devices and equipment at the end of their useful life with other funding sources. Funding sources used by the District to sustain technology investments include local budget, Erie 1 BOCES installment purchase agreements, Erie 1 BOCES Common Set of Learning Objectives COSER, Erie 1 BOCES Cooperative services, NYS hardware and software funds, Orleans-Niagara BOCES Instructional Technology COSERs, Federal E-Rate funding, NYS Title IID Grant, competitive and non-competitive technology grant opportunities, capital projects, other grants and donations.

The District provides regulations on the use of technology including mobile devices used in external locations from the school. The regulations are reviewed annually by the District Technology Committee and updated as technology evolves. The LightSpeed Internet filtering system is imposed on 100 percent of district owned devices. LightSpeed is acquired through Erie 1 BOCES and provides filtering services based on site category and precise URL block entries. The Easy Tech web-based instructional system is integrated as part of regular curriculum in grades K-12 providing education on Internet safety, touch typing, technology skill development and computer based testing readiness. The effort to provide opportunity for digital literacy and fluency is made available to students at all levels, staff and parents through the community education program. The implementation of interactive classroom panels will facilitate this teaching and learning process.

XI. Distribution, Preparation, Maintenance & Inventory Management

Accurate inventory management is critical to effective administration of system and devices. District technology staff maintain a detailed inventory of all technology related items including consumable

technology items. This information is accessible to key district staff for review and made available upon request to auditors or school administrators. Classroom technology equipment acquired through the Smart Schools Bond Act will be included in this inventory system.

XII. CLASSROOM LEARNING TECHNOLOGY SUB-ALLOCATION

	Sub-Allocation
Interactive Whiteboards	$101,520
Computer Servers	$0
Desktop Computers	$0
Laptop Computers	$0
Tablet Computers	$46,410
Other Costs	$28,528
Totals:	$176,458

XIII. EXPENDITURE TYPE

Allowable Expenditure Type	Item To Be Purchased	Quantity	Cost Per Item	Total Cost
Interactive Whiteboard	Clear Touch Interactive Classroom Panel	20	$5076.00	$101,520
Tablet Computers	Chromebook	210	$221	$46,410
Other Costs	Classroom Sound Field System	8	$1600	$12,800
Other Costs	Chromebook Secure Mobile Cart	7	$1720	$12,040
Other Costs	Lego Mindstorms Education EV3 Kits & Sets	8	$461	$3688

STATEMENT OF ASSURANCES

As Chief School Officer, I am assuring that the district will operate according to the requirements under the Smart Schools Bond Act, as detailed in the guidance documents located on the NYSED Smart Schools Bond Act website at http://www.p12.nysed.gov/mgtserv/smart_schools/

Specifically, I assure that the District will:

- Make and submit for reimbursement, expenditures consistent with the approved Smart Schools Investment Plan.
- Comply with all Education Law requirements and Commissioner Regulations under Title 8, Chapter II, Subchapter J, Part 155 for capital projects at educational facilities. See: http://www.p12.nysed.gov/facplan/Laws_Regs/8NYCRR155.htm
- Comply with all Education Law requirements and Commissioner Regulations, under Sections 3602-e and 3602-ee of Education law and Subpart 151-1 of the Commissioners Regulations for new Prekindergarten classrooms.
- Use such fiscal control and fund accounting procedures as will ensure proper disbursement of, and accounting for, funds under the Smart Schools Bond Act;
- Make reports to the State Education Department as may be necessary to enable the Department to perform its duties under the program.

The District will maintain on file and provide to the State Education Department as requested:

- A detailed accounting of expenditures, including other sources of funding used to support the District's Smart Schools Investment Plan; and
- Documentation to support any variances requested by the district, if applicable; and
- A copy of the Smart Schools Investment Plan approved by the Board of Education.