Greendale School District Excellence Award

2A Getting Started – Organize/Plan

ACRONYMS:  Erin Green- Director of Business Services
             Brian Koffarnus-Director of Buildings/Grounds

GSD= Greendale School District
IEQ= Indoor Environmental Quality
TfS= Tools for Schools
IAQ= Indoor Air Quality

The implementation of the district IEQ program has its roots in the knowledge and experience acquired by Erin Green, School Business Manager for Greendale School District. Erin attended a session on IAQ presented by the EPA at the Vancouver ASBO Conference in Vancouver, British Columbia in 1997. The information gained at this conference led Erin to organize and implement a conference on IAQ and the Tools for Schools (TfS) kits in 1999. She worked in collaboration with EPA Region 5 and the State of WI Dept of Health to conduct this event for school districts in the state of Wisconsin. The conference was publicized in the Managing School Business Journal. This event provided publicity for EPA and the availability of free kits to districts that were just learning more about IAQ and looking for resources to help them solve and prevent IAQ concerns. About 40 school districts attended the one day seminar. In this same year, Erin presented a session on “IAQ: Preview of the TfS Program” for the Wisconsin Joint State Education Convention attended by school board members and Superintendents in Wisconsin.

In 2000, prior to Erin joining the GSD staff, issues arose regarding health and IAQ concerns in the district where she was employed at the time. These IAQ issues resulted from water intrusion, moisture/mold problems and insufficient ventilation. As a result of Erin’s previous knowledge of IAQ and the TfS program, she immediately organized an effort to identify the cause of the problems and implement actions to resolve them. She engaged the help of the State Dept. of Health and an environmental consultant to educate staff about IAQ and TfS concepts. The Bureau of Public Health conducted contaminant and mold testing, filters were changed, unventils were cleaned and the district hired an HVAC engineer to rebalance the entire HVAC system to ensure proper outside air was being brought into classrooms. In addition, TfS checklists were distributed to all staff members and the maintenance staff was trained on IAQ management and use of the TfS Kit.

In 2001 Erin became the School Business Manager for the GSD. She brought her wisdom and commitment to IAQ management to Greendale with a plan of implementing TfS in her new district. It was immediately clear that overall maintenance had been neglected for years, with leaky roofs, old inoperable windows, old malfunctioning HVAC systems, broken fans, and inefficient heating plants throughout. There had not been a commitment to maintaining the facilities in the prior 30 years, and it showed. Deteriorating building envelopes, evidence of mold and inadequate ventilation led to numerous staff complaints of discomfort, and health related concerns.

After taking a year to assess the situation, and review the issues, the Greendale Safety Committee was established in 2002 led by Erin Green. This committee is made up of administrators, the district nurse, maintenance staff, workers compensation coordinator and the director of building and grounds. This committee was established to create and maintain an active interest in safety and health through broad
scope safety and loss control programs that will include the participation of staff and students in initiating and maintaining and improving safe practices for the GSD.

The Safety Committee focused its efforts on a runaway worker compensation record, which was costing the district much in the way of inflated premiums due to high accident rates. Within a year, the MOD factor for Worker Compensation injuries had been brought down from 25% over the industry average to 20% below the average (rate for accidents in the industry). This premier record has been maintained ever since, saving the district over $100,000 in nine years.

The Safety Committee, under the leadership of Brian Koffarnus and Erin Green, looked for low hanging fruit to enhance the learning environment and save energy dollars. The district applied for and obtained a Focus on Energy grant in 2004 to change out all light fixtures to T-8s, install occupancy sensors in each room, and install acoustical ceilings in every room (every room in all five schools). These enhancements paved the way to further enhancements of the learning environment, which included implementation of the TfS program and efforts to improve the indoor learning environments.

In 2007 the GSD sought approval from voters to borrow $14 million to renovate the high school. This bond passed, allowing a complete renovation of the existing building, including a $5 million dollar upgrade to the HVAC system including a complete replacement of the existing system. Digital controls were installed, allowing desktop control of all classroom environments and improving thermal comfort of the indoor environment.

Erin’s affiliation with ASBO International who had received a grant from the EPA to educate members on IAQ and the TfS Kit proved to be the resource needed to begin implementing the program in GSD. To launch the IAQ program, a team of GSD staff members applied for scholarships through ASBO International’s IAQ Resident Practitioner and the IEQ Advisory Group to attend the EPA’s IAQ TfS National Symposium. Scholarship attendees were funded between 2006 and 2010 included the following: Maintenance staff, Business Official, Assistant Principal, Director of Building and Grounds, Guidance Counselor and Science Teacher.
During the 2008-2009 school year, the stars aligned and the timing was right to take IAQ implementation to the next level. Erin shared the link between IAQ and student performance, reduced workers compensation claims and increased cost savings to gain Superintendent buy-in. His support provided the [energy] needed to move forward and put together an IAQ team to implement a district plan. Staff had been hearing the message of the GSD’s commitment to safety, health and high performance, but would soon be a part of increased efforts to be more active in the district’s IAQ program. To date, much of the communication about IAQ had been provided in written policies and email notifications.

The IEQ Advisory Group of ASBO International made a visit to the district in October 2008 to conduct building walkthroughs and meet with staff members to assist with the implementation of a district-wide program. At this time GSD made the decision to focus not only on IAQ, but to broaden their goals to include a plan that encompassed multiple environmental concerns. An IEQ Team was formed and IEQ Coordinator, Brian Koffarnus, was named in the spring of 2009. The Team consisting of administrators, teachers, district nurse, maintenance and custodial staff and meets quarterly to discuss IEQ concerns, strategies for environmental improvement and identify district IEQ management needs.

As the community began to make a push for the district to implement green practices, the IEQ team became known as the Green Team for IEQ in 2009-2010 school year. The addition of community members to the team was made to further involve the community in our efforts, and bring in additional expertise. This expanded Team is currently discussing benefits of changing our name to the High Performance Schools Team to demonstrate our commitment to the school’s mission, more closely align ourselves with the goals of the IEQ management program to achieve a higher level of student/staff performance, financial stability, facility operations, and program sustainability.

2b. Institutionalizing the IAQ Management Program: Assess/Act

GSD is fortunate to have staff and community members who believe in the importance of maintaining facilities and improving IEQ for performance, health, and cost savings and we recognize that to successfully institutionalize our IEQ program will take the commitment of all stakeholders. GSD wants to build a sustainable program for now and into the future.

Professional Development:

GSD understands the value of educating and training staff, students, and community members to properly inform the process and maintain longevity of the IEQ program. GSD staff participates in various professional education and training opportunities locally, regionally and nationally.

Brian Koffarnus, Director of Building and Grounds and Food Service along with Steve Coombs, Maintenance Foreman, are working to complete their Facility Managers Certification through WASBO by year’s end. This certification is recognized and approved by the Wisconsin Dept. of Public Instruction and the State Supt. This certification includes class work on IAQ and TFS and IAQ concepts.

The following opportunities are available through WASBO: 5-state ASBO Facility Masters Conference (Fall), WASBO Conferences held in Spring and Fall, WASBO Facility Management Conf. (Nov) and WASBO Custodial Conference in June attended by all district custodians. These conferences are attended by the
Buildings and Grounds Director and his assistant annually, and include many sessions and information on IAQ.

Tartan Chemical supplies district with MSDS sheets on-line, chemical supplies, and training on products and procedures. Green cleaning products are used.

Wisconsin School Safety Coordinator Association (WSSCA) provides training on: School Safety, IAQ, Chemical spills, electrical, playground safety. GSD attends these annually.

Safety Coordinator Certification is available through WSSCA and will be completed by Brian and Steve by Sept. 29, 2010.

Ms. Green is a Past President of WSSCA, and as such has directed the professional development available to Wisconsin Schools.

EMC – Environmental Management Consulting Company- Provides training in asbestos, IAQ, confined space, lead, mold, etc. to the district, and conducts all needed IAQ testing.

The IEQ team has now institutionalized handling of complaints, done via the School Dude software program for work order management, and the program for preventive maintenance. All complaints are placed electronically into the work order system, and addressed promptly.

All Administrators have now been trained on IAQ and IEQ, with the help of ASBO IAQ staff members. This training occurred in September of 2010.

The community members of the IEQ team also received the same training in 2010.

Communication:
Initiatives are communicated in various ways to the community. We use our district web site to show current stories, a written newsletter four times a year to all households, articles to the local newspaper, and we inform members of our Community Leader Team of our IEQ efforts. Information is also communicated during our annual town hall meeting with the community. We use all forms of communication to get out the word of our good work. Staff communications happen mainly via our in house email and message board system. Erin Green writes memos to all staff periodically, at least annually, to update them on IEQ issues and directives that help maintain a healthy environment.

Erin developed code of safe practices in conjunction with Brian K. This code went to every staff member who signed off they had a copy. Summarized safety laws and codes in user friendly terms and one area refers to IAQ. This section provides staff with the TfS Checklist for their area, how to report problems, behaviors/practices for preventing IAQ problems in their space.

All Staff Communication at the beginning of each year has a section devoted specifically to IEQ which began in 2009. Talk of general points for IAQ problem prevention.

Communicating the message: Erin presented the GSD story of successes achieved through the implementation of the IEQ program at the 2009 ASBO Annual Meeting.

GSD earned the Great Start and Leadership Awards in 2009.
Upper Management Buy In
Ms. Green is the second in command of the school system, and as such, has the senior level buy in covered. The superintendent and school board support the IEQ effort and attend the training provided by ASBO. He supports using promotion of the IEQ program as part of staff evaluations.

The written strategies for maintaining the IEQ program are part of the evaluation of the Building and Grounds Director’s performance.

The written goals of the program have included:

1) Decluttering of all spaces, offices and classrooms, to allow for adequate cleaning, leading to better health outcomes for all students and staff.

   Outcome: This has occurred in most spaces, and is supported by administrative directives

2) Proper storage of all classroom and office items to promote a safe, clean environment.

   Outcome: Administrators have supported this effort, and environments are much cleaner and more orderly and healthy.

3) Staff education on HVAC system operation, so that vents are not blocked, fresh air is adequate, and health is improved.

   Outcome: Staff has been trained by the Buildings and Grounds Director in staff meetings. Written reminders come out annually to alert staff to pay attention to this.

4) Implementation of a cyclical maintenance program that is preventive in nature.

   Outcome: The program is ongoing. Facilities and equipment are maintained preventively.

5) Staff adherence to operational priorities to maintain low allergy incidence, such as no air fresheners, no hanging things from ceilings, reduce use of paper on walls, no plants or animals, no stuffed furniture or items that cannot be cleaned properly (fuzzy items).

   Outcome: Staff are reminded annually in writing about the directives and administrators enforce. The culture has changed in two years, and a better environment is present.

Over the long term, the team will continue to identify other priorities and will implement data driven measures to assess the success of the program.

2C Getting it Done – Responding to IAQ Concerns and Preventing Future IAQ Problems:
Assess/Act/Evaluate

MOLD STORY
Example: Mold was discovered in roof decking the classroom/dance studio. We had to cure the problem by replacing roof section entirely, put room under negative pressure, and mold abatement. Disaster was averted, class continued in rest of building, no one harmed. It was found to be a structural defect, and a class action lawsuit was filed and won.

RENOVATION STORY
H.S. Renovation project $14 million dollars in 2007:
Renovation discussions began with team of school admin., teaching staff and community and GHS Facilities Committee who made recommendations to school board. Updated and renovated the HVAC system for $5 million was the major component, cleaning the duct work, improving IEQ, replaced leaking windows in all buildings, eliminating VCT tile and replaced with sustainable flooring including terrazzo and polished concrete, building envelope repairs, repaired or replaced all roofing, asbestos abatement now 95% asbestos free, efficient heating system installed in all schools. Digital controls management system allows building to be temperature controlled. Building is now safer with secured entrances and cameras. Removed chalk boards and replaced with white boards. We removed dark room and harsh chemicals.

Greendale HS was the first high school in the state to install a solar thermal heating system that heats both the school’s domestic water system and the pool. This saves dollars that can now be spent in the classroom, instead of energy costs. This will be a very green and sustainable operation into the future. It will likely save the pool operation, as costs to operate had become prohibitive. These operations are used in the curriculum, to show students a sustainable operation.

FACILITY UPGRADE AND MAINTENANCE STORY

• Pool was renovated. Ventilation redesigned, and fixed. Pool wrap around coil takes humidity out of air - takes used air and dumps back into space for heat which reduced energy expense, dampers fixed - $5 million dollars worth of renovation to mechanical systems in HS.

• HVAC systems replaced.

• T12 – T8 light bulbs, light sensors and all ceiling tiles replaced in whole district in 2003-2004 to save energy, to be sustainable. Day lighting used to a large degree year round, rather than using electricity.

• Checking and changing filters regularly promotes high IAQ.

Work order management system: Custodians receive complaints on line (School Dude system) and investigate problems, work to correct problems immediately. If this cannot occur, the complaint is logged in their electronic WO management system as a maintenance request. Outside contractors are called in as needed.
Brian has meetings with custodians regularly to go over maintenance and cleaning protocols.

H1N1 STORY
H1N1 outbreak occurred in 2009. A school was closed for three days but due to diligence by the custodial staff, all other buildings remained open, and the illness only affected one school. The entire school was sanitized and cleaned, along with all other schools. Cleaning protocols prevented any more
outbreaks since then. All areas are maintained to a high standard of cleanliness and disinfected daily. As a result of the outbreak, cleaning protocols were changed permanently, because many other airborne illnesses can be prevented this way. All desk tops, hand rails, doorway handles, and bathrooms are sanitized daily and disinfected.

INSPECTIONS AND MONITORING STORY
GSD conducts facility inspections multiple times throughout the year. Brian Koffarnus conducts annual walkthroughs once a year in the fall with the Community Insurance Company. Brian participates in walkthroughs to assess cleanliness, structural damages, and environmental need. Custodians assess buildings daily looking for safety hazards, and potential IEQ problems. Fire Departments conduct walkthroughs twice a year in fall and spring. Wisconsin State Health Department walks through twice a year focusing on food safety. GSD has certified pool, playground and boiler inspectors on staff to conduct annual inspections of these areas. Staff reports of problems or concerns are addressed the same day, maintenance is scheduled as needed and a plan of action is put into place. The ASBO walkthroughs and reports generated by the IEQ Advisory Group have provided the IEQ team with recommendations and suggestions for environmental improvements, much of which have been acted upon and completed. TFS kits are used to generate classroom checklists and the custodial handbook includes checklists for the custodial department.

ELEMENTARY SCHOOL HEALTH ISSUE STORY
Highland View (HV) Elementary: Complaints were heard from HV staff about IAQ and asthma being triggered. First solution involved relocating a teacher with asthma away from an outside garden thought to be the cause of her asthma problems due to possible increased pollen and mold spores in her classroom. This did not alleviate the problem. Complaints continued as custodians assessed the buildings with EMC who also conducted air sampling. The assessments led staff to identify that air intakes for univents were plugged with debris and likely had not been cleaned in over 30 years due to an architectural defect. Mosaic tiles located on the outside of the building were designed not to be removed. As a result of what was discovered by the custodians, the mosaic tiles were redesigned to be removed so intake grills could be cleaned in a timely fashion. Outcome - health complaints ceased upon cleaning the grills.

After shampooing carpets prior to the start of school, the building was closed. Upon opening the building an odor was present in a classroom. The district brought in the environmental consultant to check for mold. The consultant found that ceiling tiles were made of recycled paper, and that some of the tiles came from a different batch that was deficient. These tiles were absorbing moisture and creating the smell as determined by encapsulating the tiles. These tiles were removed and the smell went away. Lesson learned – HVAC system fans run to circulate air in the buildings throughout the summer months.

The IEQ Advisory Group identified through the use of a Q-Trak device that CO2 levels were found to be excessively high in some classrooms at the end of the school day. GSD Lesson learned - Leave the HVAC fans running longer after school hours to remove more CO2 for the safety of custodians.

VENTILATION STORY
College Park Elementary: During the winter months, maintenance received calls that the rooms were stuffy and hot. We identified univents that were covered up and requested teachers to move their items from the univent surfaces and clear space around them so they could properly circulate the air. In addition, maintenance corrected HVAC operations by moving the diffusers and extending duct work so
fresh air would circulate away from the walls and farther into the learning space. As a result, air is comfortable and staff and students are learning.

BUS STORY
Bus safety and idling: The contracted transportation company was asked to limit bus idling to a minimum. The areas for loading and unloading were changed at each school, to place buses away from the air intakes, and have safer traffic patterns.

DISTRICT WIDE DECLUTTER STORY
Clutter had become a problem in the district. Teachers tend to hang onto to many older curricular items. GSD hired an architect to look in the classrooms, offices and storage closets of each building to assess the use of space and identify the need for constructing additional storage cabinets. GSD hired a professional organizer in 2009 to work with the staff one on one to help them throw away unnecessary items, and organize their spaces and classrooms. GSD held a staff cleanout day, to focus on the problem and the solutions. Before and after pictures were taken.

End-of-Year Staff/Admin Walk through - Principals of every school now implement a procedure drawn up by IEQ team. This was first implemented in spring 2009. Principals performed a mandatory inspection of each classroom as part of the teach check-out procedure with the checklist created by the Team to ensure that rooms were de-cluttered and ready for summer cleaning. This alleviated stress by giving teachers permission to get rid of old materials. This was implemented again in 2010 - Second time around program went more smoothly, less clutter to contend with.

Results: Spaces were organized, de-cluttered, healthy and inviting. It was clear that the learning environments had improved dramatically. A tour by the ASBO staff this fall demonstrated to them (and to us) that we had made substantial improvements. Learning areas were clean, orderly, well organized, and healthy. Achievement continues to improve, demonstrated by the various measures of student performance, some of which are referenced in this document. Erin was interviewed in June 2009 by Managing School Business, a national professional magazine, for an article on this subject titled “Enlist Professional Organizer to Conquer Clutter” which reaches thousands of school administrators nationwide.

STAKEHOLDER BUY IN

GSD understands the need for buy-in from all staff to implement a successful sustainable IEQ program. Educating the all teachers was a priority. Brian attended each school faculty meeting throughout the school year. He shared slides obtained from ASBO International on the links to IEQ, performance and health, and discussed needed changes to improve IEQ and avoid fire code violations.

In order to minimize waste, implement green practices, comply with fire code, and reduce costs, the following activities were implemented: Painted bulletin boards to remove the need for paper which was a fire hazard, costly to the district and not eco-friendly, teachers removed air fresheners and personal chemicals from classrooms for improved health, and were required to remove pillows, fleecy items and personal items not used for instructional purposes that may cause a health hazard. The need for students to bring in sanitizers and wipes has been eliminated as the district has purchased wall sanitizer dispensers for hands and wipes for cleaning desk surfaces. Teachers are required to remove hanging
projects from ceiling to eliminate poking hazard, reduce the incidence of light sensors going off in the rooms when unoccupied, and to comply with fire code, and to keep a clean healthy environment.

Board policy on energy and IEQ implemented to provide upper level support for the efforts of the team.

Cleaning:
District moved to using green products including chemicals, microfiber dust rags and mops. Costs have been reduced by using higher quality products and equipment.

Reduced inventory of cleaning products for safety and health and efficiency reasons.

Eliminated burnishing through use of sustainable floors chosen in renovation. This eliminates the throwing of particulates into the air, which is a lung irritant and allergy trigger. Carpeting is used in some areas for acoustics, and use of floor waxes and chemicals are eliminated.

CURRICULAR BUY IN
Kids getting involved: Kerry Owens-Bur, principal at College Park Elementary, has 5th grade students apply for the cleaning rep to pick/clean up at the end of day -Stacking chairs, picking things up, making rooms easier to clean. CP staff spent days over summer removing clutter and moving furniture for better cleaning, improved learning, and improved teacher satisfaction.

Involving Special Education: Brian Koffarnus (BG DIRECTOR) worked with special education students to teach them cleaning skills...which launched the creation of the student assistance program with the courts. GSD worked with a former parent and current resident, approached the Courts to discuss GSD involvement of HS students having the ability to perform their community service projects on school grounds. Asst. Principal and Brian have contract for them to sign. Training is given. Lamar (LEAD CUSTODIAN GHS) trained and molded Steven (a special ed student) who is now a full-time custodial employee of district. The tasks performed are cleaning locker tops and surfaces, dust mopping floors, cleaning outside room vents and doors, uptake vents in halls, picking up trash outside, and scrubbing walls. This allows cleaning to take place that staff doesn’t normally have time to do on the job, a learning opportunity for special education students and the ability to give back to their school. HS Renovation: Poms Team and Cheerleaders cleaned – washed windows, walls; Football team moved furniture. Every room had to be emptied and put back together.

Geo Club at HS – Students of this club will now start getting involved in “green and sustainable” projects that improve the learning environments.

TURF STORY
Installed Synthetic football turf in 2008- reduced chemical usage, mower use and the need for watering. This $700,000 project was funded by a combination of fund raising and school district funding. The usable season of the field has been extended, rain no longer an issue, and maintenance of the field has been dramatically reduced.

IPM
GSD uses an IPM program. Fields and grounds are maintained with minimal amounts of any weed killers and fertilizers in order to preserve the environment.
ENERGY STORY
Energy Smart tips on Website
Energy Star challenge on Website and partner in 2007
District took Governor’s Challenge to reduce energy use by 10%. District more than complied, saving $120,000 over two years in energy costs.

The results of the energy reduction program are attached in a graph detailing the decreases among all district facilities. All staff is on board with energy reduction policies and efforts. The energy saved is dramatic.

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![Graph showing energy cost decreases](image-url)
Schedule of IAQ activities – These are detailed in the Custodial Handbook, which describes cleaning procedures.

RECYCLING STORY
Recycling program – District separates trash and all recyclables. District collaborates with student council and honor society on this. Money saved from waste removal remained in custodial/maintenance budget to improve predictive/preventive maintenance.

2D Capturing Success – Evaluating Your IAQ Program: Evaluate/Communicate

Information below is excerpted from the Greendale School Connection Vol. 14, Issue No.3, Summer 2010.

• Newsweek ranked Greendale HS in the top 5% of American public high schools for the fifth consecutive year.
• The Citizen Budget Team, consisting of Greendale residents with financial expertise, is committed to finding new and improved efficiencies to reduce operational costs and redeploy funding directly to instruction.
• A continued focus on educational excellence is the overall goal of the Greendale Board, administration, faculty, staff, and teacher leaders.
• Minor capital projects will be undertaken at the District’s school buildings including GHS annually. $200,000 is dedicated annually to predictive/cyclical maintenance such as roof replacements, asphalt upkeep, HVAC maintenance, and building envelope repairs. This reflects the ongoing commitment to preventive maintenance.
• Real dollars (over $120,000) have been saved in energy costs through innovative changes in operation, and the addition of energy-saving heating plants, controls, and solar panels to heat the pool and domestic hot water.
• $50,000 has been saved in Worker Compensation insurance by improving loss ratios (accident rates). GSD is now 20% below industry average in accident rate, a decrease from being 25% above the average.
• $20,000 has been saved from copying costs through reducing paper use, and using digital technology, a more “green and sustainable” and socially responsible way to be.
• Milwaukee Magazine rated GSD as the district with the “biggest bang for the buck” in the metro Milwaukee area.

Information below excerpted from 2010 Annual Report:

• Greendale MS named an exemplary middle school by the Association of Wisconsin School Administrators based on student academic achievement.
• GSD listened to the community. Their request: “How are we moving the Greendale School District forward in these tight economic times?” District response: “The District will be revising
its strategic goals to keep us on track to the future. Being green, sustainable and socially responsible is a goal of our operational side. We have a “green” team working on these issues.”

- We have worked hard to have our school district become a results-oriented and accountability-based organization. It is important for the community to know what results are being produced for the investment they are making in the educational system and for the benefit of our students.

The following charts depict the achievement levels of Greendale students. The district is one of the top five performing districts at all age levels in the four county area encompassing over 50 districts.
Also, please access a current report of the district’s increasing achievement levels at:

One other source to review our current achievement levels benchmarked against other high performing districts is also attached. This will go up on the web shortly, but since it is not yet there, I am attaching.