

# WPS Environmental Management System (EMS) Progress Report

## October 2017

### Report Overview

The initial focus of the Environmental Management System (EMS) that commenced seven years ago, was on asbestos and hazardous materials. Since that time, both the topics address and people involved in the EMS has steadily and rapidly increased as both issues and opportunities arise. The following summary provides a brief overview of this work. It is based on extensive research and program development within WPS departments, and at times with municipal and state agencies. Additional details of this work are available upon request.

### Personnel Involved

The EMS has facilitated a truly collaborative experience within WPS. There is work at the district level to implement the EMS as well as at the department and inter-department level. The Facilities (Operations, Trades and Custodial) Department has provided a base and invaluable support for this work. The WPS Finance, Procurement, Safety, IT, Quadrant, Staff Development and Grant departments have provided a range of program and administrative supports. The Science, School Nutrition, Transportation, Nursing, Human Resources, SPED, Art and Grant departments have all been involved in assessing and addressing environmental issues in their departments as well as across departments.

This work can involve, but is not limited to; benchmarking of compliance and need for environmental health and safety (EHS) systems, program development, changes in purchasing criteria, enhancements of work practices, addition of roles and responsibilities, implementation of inspection and monitoring systems, implementation of recordkeeping and document control systems, etc. The addition of a full time Environmental Coordinator has enabled WPS to significantly increase its ability to address identified issues, and to continue to expand on new issues within the district. There are two-part time consultants that have been working with the EMS from its inception. Their roles have to been to facilitate the development and implementation of the EMS, and to provide technical assistance and training.

**The following Environmental Management Programs (EMP) are based on the EMS Model and have the following components:**

- **Assessment** - Includes benchmarking compliance, as well as identifying and investigating issues through inspections, testing, sampling, etc.
- **Mitigation** - Ranges from physical improvements to the structure, to changes in work practices, and equipment and products used in operations.

## WPS Environmental Management System (EMS) Progress Report October 2017

- **Compliance Monitoring** - Monitoring the implementation of mitigation measures, work practices, etc., and ensuring compliance with required inspections, reporting, training, recordkeeping, etc.
- **Training** - Covers both required training content as well as best management practices designed to ensure compliance with regulations, enhance worker and occupant safety, save money and reduce risk and liability.
- **Maintenance** - Covers preventative, reactive and emergency maintenance.
- **Operational Controls** - Examples include; procurement tools and criteria, SOPs, guidance documents, inventory controls, etc.
- **Emergency Response** - This work involves coordination with Safety Liaison, work within each department, and protocols and response for each of the environmental issues.
- **Capital Improvements** - Capital projects such as window projects and HVAC upgrades to eliminate health and safety hazards, improve efficiencies, etc.
- **Recordkeeping and Document Control** - Required documentation of records and documents, as well as tracking of related WPS information.
- **Communication** - Includes communication to the school community, regulators, vendors, parents, etc.

## WPS Environmental Management System (EMS) Progress Report October 2017

EMS Program	Program Updates	Next Steps/Future Goals
<p><b>PCB's</b></p>	<ul style="list-style-type: none"> <li>• Inspection - WPS consultant conducted visual inspections of PCB Best Management Practices on 8/21/17 at Burncoat and Doherty High Schools.</li> <li>• Mitigation - In response to the visual inspection findings, WPS Facilities Dept. applied missing or damaged over caulking in 3 locations at Burncoat and 1 location at Doherty. Areas where dust accumulations were identified at Burncoat(2) and Doherty(11) were addressed.</li> <li>• Capital Improvements - Buildings that had windows and doors replaced in FY17/18 - Jacob Hiatt, Flagg Street, McGrath</li> <li>• Training - Annual awareness training on PCB hazards, prevention and cleaning procedures conducted in April 2017</li> <li>• Testing - Annual air sampling conducted in April/May 2017.</li> <li>• DPH conducted visual inspections on window caulking at Burncoat and Doherty in March/April 2017.</li> </ul>	<ul style="list-style-type: none"> <li>• Inspection - WPS to continue quarterly inspections, annual air sampling, accelerated cleaning program and annual training for Facilities Staff in accordance to School Committee's Operation and Maintenance Plan.</li> <li>• Capital Improvements - Buildings with windows and door replacements to complete in FY18               <ul style="list-style-type: none"> <li>○ Grafton Street Buildings 1 &amp; 2</li> <li>○ Belmont</li> <li>○ Gerald Creamer Center</li> <li>○ Wawecus</li> <li>○ Chandler Elementary</li> </ul> </li> </ul>
<p><b>Asbestos Management</b></p>	<ul style="list-style-type: none"> <li>• Operational Tools – revised RFP specifications for inspection and design and monitoring of response actions, and selected a new vendor. The work conducted under this new vendor is significantly enhanced from previous vendors' work.</li> <li>• Recordkeeping – Updated, compiled and disseminated Asbestos Management Plans to all buildings in the district</li> <li>• Inspections – The new WPS Asbestos contractor conducted 3 year re-inspections fall 2016, and 6-month periodic surveillance inspections at all buildings in the district in July and August 2017, awaiting reports. This information is the most comprehensive assessment to date.</li> <li>• Mitigation               <ul style="list-style-type: none"> <li>○ Establish a list of High Priority Response Actions</li> <li>○ Contractor took bulk samples of assumed asbestos containing material listed on high priority repair list to determine if remediation is necessary.</li> </ul> </li> <li>• Training               <ul style="list-style-type: none"> <li>○ Environmental Coordinator trained as an inspector and management planner. This extensive training enables him to serve the district's "Designated Person" as required under AHERA.</li> <li>○ provided Asbestos Awareness training to trades and custodians – July 2017</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Inspection – conduct 6-month periodic surveillance inspections scheduled early winter 2018</li> <li>• Recordkeeping               <ul style="list-style-type: none"> <li>○ Contractor is generating a digital database of all Asbestos containing material in district.</li> <li>○ File records from response actions</li> </ul> </li> <li>• Mitigation               <ul style="list-style-type: none"> <li>○ Obtain associated costs for mitigation of high priority areas for remediation</li> <li>○ Schedule and monitor asbestos response actions (e.g. repair, abatement) for high priority areas and other projects</li> </ul> </li> </ul>

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<b>Indoor Air Quality</b>	<ul style="list-style-type: none"> <li>• Program Development - WPS Facilities Department joined the WPS Nursing Department partnership with City of Worcester and Medical Community under the Prevention Wellness Trust Fund, Pediatric Asthma Project, to improve Indoor Air Quality in the School District. Piloted a program at two elementary schools. Involved :               <ul style="list-style-type: none"> <li>○ Inspection/Assessment                   <ul style="list-style-type: none"> <li>▪ Conducted EPA's Tools for Schools inspection in two school buildings.</li> <li>▪ Surveyed classroom staff on IAQ issues.</li> <li>▪ Interviewed principals and HVAC technicians.</li> </ul> </li> <li>○ Training                   <ul style="list-style-type: none"> <li>▪ Developed and piloted training to school staff to assess their classroom IAQ</li> <li>▪ Trained custodians on wet cleaning methods</li> </ul> </li> <li>○ Mitigation                   <ul style="list-style-type: none"> <li>▪ In process of developing a carpet/rug committee to review safer, healthier alternatives to area rugs in preschool and kindergarten classrooms to reduce asthma triggers. Conducted research into alternative options.</li> <li>▪ Drafted an IAQ Complaint Response System.</li> <li>▪ Began development of Operational Tools to address IAQ issues identified.</li> <li>▪ Began mitigation of identified IAQ and ventilation issues.</li> </ul> </li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Assessment               <ul style="list-style-type: none"> <li>○ Pilot IAQ Complaint System</li> <li>○ Continue IAQ assessment in building that request them. The preschool buildings are next in the que of buildings to be assessed.</li> <li>○ Obtain IAQ test equipment and maintain devices</li> </ul> </li> <li>• Mitigation               <ul style="list-style-type: none"> <li>○ Implement Green Cleaning programs for Nutrition and Transportation Dept. under TURI Grant.</li> <li>○ Implement Green Cleaning program for School Custodians.</li> </ul> </li> <li>• Training               <ul style="list-style-type: none"> <li>○ Provide training to custodian on IAQ and ventilation.</li> <li>○ Provide training to school staff on an as needed basis.</li> </ul> </li> </ul>
<b>Radon</b>	<ul style="list-style-type: none"> <li>• Created a Radon Environmental Management System at City View when DPH turned operation of the program over to the WPS in 2015.               <ul style="list-style-type: none"> <li>○ Phase 1:                   <ul style="list-style-type: none"> <li>▪ Purchased new equipment, install software to track data, and develop management plan and SOW.</li> <li>▪ Worked with vendor to: install equipment, download and analyze data, and calibrate and repair existing equipment.</li> </ul> </li> <li>○ Phase 2 – partially brought the program in-house in 2017:                   <ul style="list-style-type: none"> <li>▪ WPS Facilities Dept. developed an inhouse procedure on maintaining the City View Radon Mitigation System</li> </ul> </li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Monitoring               <ul style="list-style-type: none"> <li>○ Continue calibration of 5 RAD7s radon monitoring equipment at City View.</li> <li>○ Continue to download data and send for analysis.</li> <li>○ Maintain mitigation (fans) and monitoring equipment (RAD&amp; and Drystiks).</li> </ul> </li> </ul>

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<p><b>Lead and Copper in Drinking Water</b></p>	<ul style="list-style-type: none"> <li>▪ Environmental Coordinator conducting monthly downloads of monitoring data and sends monitoring for analysis, calibrates on-site monitoring equipment, and ships RAD7 equipment for vendor to conduct yearly calibrations.</li> <li>▪ Contractor analyses data, and calibrates RAD7.</li> </ul> <ul style="list-style-type: none"> <li>• Recordkeeping – completed MassDEP Drinking Water Checklists.</li> <li>• Assessment               <ul style="list-style-type: none"> <li>○ LCCA Program                   <ul style="list-style-type: none"> <li>▪ Applied for MassDEP grant for assessment of drinking water.</li> <li>▪ Worked with MassDEP to map all fixtures, develop sampling plans, and to sample for lead and copper in all fixtures that could be used for drinking water or medicine.</li> </ul> </li> <li>○ LCR Program - Worcester DPW                   <ul style="list-style-type: none"> <li>▪ Built relationship with DPW and integrated their efforts with WPS.</li> <li>▪ Assisted DPW with conducting lead and copper sampling for two fixtures at Goddard and Midland on 9/21/17 (1 bubbler and 1 kitchen faucet at each school). All results below action levels.</li> </ul> </li> </ul> </li> <li>• Mitigation               <ul style="list-style-type: none"> <li>○ Analyzed results and developed “Action Plans”.</li> <li>○ Initial mitigation action plans completed (“hand washing only” signage, daily flushing, taking fixtures off-line.)</li> <li>○ Established contract with MassDEP certified lab for drinking water re-testing.</li> <li>○ In process of collecting quotes for fixtures identified to be replaced/repaired.</li> <li>○ Developed procedure with WPS Plumbers to post “Fixture Under Repair” signage once fixture is replaced until the unit is cleared for lead &amp; copper action levels.</li> </ul> </li> <li>• Communication - Notified school community of results and “Action Plans”.</li> <li>• Monitoring - custodial compliance with flushing requirements.</li> </ul>	<ul style="list-style-type: none"> <li>• Assessment - determine Radon sampling and mitigation needs throughout district.</li> </ul> <ul style="list-style-type: none"> <li>• Mitigation               <ul style="list-style-type: none"> <li>○ Purchase fixtures for replacement</li> <li>○ Re-sample fixtures to ensure drinking water is below action levels for lead &amp; copper.</li> <li>○ Provide guidance on maintaining water dispensers</li> </ul> </li> <li>• Monitoring               <ul style="list-style-type: none"> <li>○ Monitor new mitigation and plumbing changes in future.</li> <li>○ Continue to monitor custodial flushing of fixtures.</li> </ul> </li> <li>• Recordkeeping               <ul style="list-style-type: none"> <li>○ update sampling results database as new data is generated</li> <li>○ update action plans</li> </ul> </li> <li>• Communication - Provide updated results and actions plans to school community.</li> </ul>

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<p><b>Lead Based Paint</b></p>	<ul style="list-style-type: none"> <li>• Inspections - WPS Facilities teamed up with Worcester Inspectional Services to conduct lead paint surveys in buildings with PreK facilities that were built prior to 1978, before lead paint was banned. These inspections were conducted during summer break and included the PreK classrooms, cafeterias and egress areas where children under 6 occupy. Four buildings had exceedances of lead-based paint levels, three of those buildings were found to have damaged lead-based paint.</li> <li>• Mitigation               <ul style="list-style-type: none"> <li>○ The damaged areas were stabilized by a licensed Lead Renovation, Repair and Painting contractor before students and staff arrived back at school.</li> <li>○ Other high priority areas where flaking, damaged paint have been identified, inspected and stabilized including areas at Goddard, Millbury, Greendale, Union Hill.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Conduct lead paint inspections/sampling at high priority areas going forward and monitor areas where we know lead based paint is present.</li> <li>• Continue to schedule mitigation actions as needed.</li> </ul>
<p><b>Hazardous Materials/ Emergency Response (hazardous and universal waste)</b></p>	<ul style="list-style-type: none"> <li>• Inspections - Conducted Laboratory Compliance Inspections at Doherty, Burncoat, South, North High Schools in June 2017.</li> <li>• Mitigation - Worked with Chemical Safety Officers (CSO's) to mitigate issues identified during lab inspections. Placed work orders as needed.</li> <li>• Operational Controls               <ul style="list-style-type: none"> <li>○ Created hazardous waste log for science dept. to track the volume of hazardous waste being generated onsite.</li> <li>○ Created weekly eye wash station test sheet for CSO's to implement in their schools.</li> <li>○ Created Safety Data Sheet and Right To Know binders for School Nutrition's new Environmentally Preferred Products(EPP)</li> <li>○ Created Right To Know/SDS "at a glance" guidance documents for Facilities Tradesmen's hazardous products.</li> <li>○ In process of updating the EMS Emergency Notification Tree Document in collaboration with Safety Liaison, Facilities and EMS Consultants.</li> </ul> </li> <li>• Emergency Response - Assisted the district's Safety Liaison to revise the Emergency Guide and disseminate to all schools in the district.</li> <li>• Training – drafted a training for CSO's on Management of Fume Hoods.</li> </ul>	<ul style="list-style-type: none"> <li>• Inspections               <ul style="list-style-type: none"> <li>○ Scheduled to conduct lab inspections at UPCS and Claremont in November 2017.</li> <li>○ Scheduled meeting with Science Liaison and department heads in January to review previous inspection results and conduct a "mock" lab compliance inspection.</li> </ul> </li> <li>• Operational Controls - Review and finalize Science Safety Manual in collaboration with the district's Science Liaison.</li> <li>• Emergency Response - Determine locations where emergency eye wash stations need to be located, and generate quote for high priority areas.</li> </ul>

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	<ul style="list-style-type: none"> <li>• Established hazardous waste areas at many buildings throughout the district including: School Shop, Foley Stadium, buildings generating heating oil waste (Alternative, Harlow, Mill Swan).</li> <li>• Purchased spill materials to set up kits at hazardous waste areas to contain potential spills.</li> <li>• Established a procedure for self-transporting hazardous waste to buildings with larger waste areas to save cost on disposal. This procedure is based on MassDEP regulations.</li> <li>• WPS Facilities Dept. is now participating in the Mercury Recovery Program through the City of Worcester's Wheelabrator contract. This is a reimbursement program for 100% disposal cost (non-labor time) of mercury containing fluorescent lamps and devices.</li> </ul>	<ul style="list-style-type: none"> <li>• Training - Train facilities tradesmen on how to read Right To Know/SDS guidance documents.</li> <li>• Establish hazardous waste areas at all buildings where hazardous waste is generated.</li> <li>• Set up and stage spill supplies at hazardous waste areas.</li> </ul>
<b>Toxics Use Reduction</b>	<ul style="list-style-type: none"> <li>• WPS Nutrition, Transportation and Facilities Departments have been awarded a Toxics Use Reduction Institute (TURI) Community grant to pilot:               <ul style="list-style-type: none"> <li>○ A Green Cleaning Program - environmentally preferred cleaning products and practices in School Kitchens and School Buses. These departments will be collaborating with manufacturers of safer cleaning and disinfection products and the TURI Laboratory. The original scope for grant was to pilot 5 School Kitchens, but WPS is now piloting products and practices in all 60 WPS kitchens. The SOW for the school buses will include all WPS operated buses.                   <ul style="list-style-type: none"> <li>▪ Assessment - Identified products for replacement, and needs for enhanced work practices and personal protection.</li> <li>▪ Mitigation                       <ul style="list-style-type: none"> <li>• Piloted and reformulated some food service products in a previous pilot. Use these results for grant project.</li> <li>• Transitioned hazardous cleaning products to new environmentally preferred products, reduced number of products used, implemented new equipment and supplies (to help reduce the quantity and efficiency of products used).</li> </ul> </li> <li>▪ Training – trained 300 kitchen staff on new procedures, safety systems and Right To Know.</li> </ul> </li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Training - Train the driver and administrators in the Transportation Department.</li> <li>• Mitigation               <ul style="list-style-type: none"> <li>○ Properly inventory and dispose of hazardous products in school nutrition and transportation departments.</li> <li>○ Complete transition of greener products for school nutrition and transportation.</li> <li>• Monitoring - Evaluate pilot products, equipment and procedures.</li> </ul> </li> </ul>

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<p><b>Integrated Pest Management (IPM)</b></p>	<ul style="list-style-type: none"> <li>• Successfully piloted new “greener” Bru Tab disinfectant for custodial staff. Purchase order placed to provide this safer alternative disinfectant for custodial staff district wide. Working with vendor to provide training prior to rolling out product. Training anticipated at the end of Oct 2017.</li> <li>• Operational Controls               <ul style="list-style-type: none"> <li>○ Revised contract specifications for IPM vendor to include a more comprehensive IPM program.</li> <li>○ Enhance Integrated Pest Management Practices in the WPS’s Kitchens as part of the TURI Community Grant. See next steps column.</li> </ul> </li> <li>• Training – provided IPM training to all Facilities Dept. Staff in July 2017.</li> <li>• Communication – met with current IPM vendor to review the effectiveness of program and to improve current procedures.</li> </ul>	<ul style="list-style-type: none"> <li>• Continue to work with IPM vendor to improve record keeping, inspections, and mitigation methods.</li> <li>• Implement IPM Project - This will involve working with pest control operator to help develop:               <ul style="list-style-type: none"> <li>○ Inspection Tools- this internal pest inspection will complement the vendor’s monthly monitoring.</li> <li>○ Operational Tools - develop IPM work practices</li> <li>○ Training - conduct staff IPM training.</li> </ul> </li> </ul>
<p><b>Training</b></p>	<ul style="list-style-type: none"> <li>• <u>Facilities Staff Training (Custodial and Tradesmen)</u> <ul style="list-style-type: none"> <li>○ PCB Operations and Maintenance Training/Universal Waste Training – 4/2017</li> <li>○ Right To Know/Asbestos Awareness/IPM/Hazardous Waste Training – 7/24/17 &amp; 7/25/17</li> <li>○ Workers Compensation Training – Slips, Trips, Falls – 6/22/17</li> <li>○ Worcester Fire Dept. Fire Safety Training – 8/15/17</li> <li>○ HVAC Staff hazardous waste training and demonstration -9/26/17.</li> </ul> </li> <li>• <u>School Nutrition Dept.</u> <ul style="list-style-type: none"> <li>○ Right to Know/Hazardous Materials/Hazardous Waste/ Cleaning product demonstration on 10/6/17</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• <u>School Nutrition</u> <ul style="list-style-type: none"> <li>○ Integrated Pest Management Training (as part of TURI Grant)</li> </ul> </li> <li>• <u>School Transportation</u> <ul style="list-style-type: none"> <li>○ Right to Know/hazardous materials dept. (as part of TURI Grant)</li> </ul> </li> </ul>