



BROKEN HILL ENVIRONMENTAL LEAD PROGRAM

STEERING COMMITTEE ANNUAL REPORT 2015-2016

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EXECUTIVE SUMMARY

Background

On 13 February 2015, the NSW Government allocated more than \$13 million, over the five years from 1 July 2015 to 30 June 2020, to address the issue of lead exposure in Broken Hill and ongoing detections of elevated blood lead levels in local children.

The funding established the Broken Hill Environmental Lead Program (BHELP), with an aim of developing sustainable solutions to ensure children aged 0-4 meet the National Health & Medical Research Council (NHMRC) guidelines for blood lead levels into the future. The program has a focus on Aboriginal children, given 79% currently have blood lead levels above the NHMRC benchmark of less than 5µg/dL (5 micrograms of lead per decilitre).

On 19 May 2015, the NHMRC recommended that if a person has a blood lead level greater than five micrograms of lead per decilitre (µg/dL) of blood then the source of lead exposure should be investigated and reduced. The BHELP has adopted the NHMRC recommendations when addressing the issue of blood lead levels in local children.

Research from the 2015 calendar year shows that the proportion of all children, Aboriginal and non-Aboriginal children with blood lead levels above the current NHMRC benchmark of less than 5µg/dL was 47 per cent, 79 per cent and 35 per cent respectively. This data will be used as a baseline for measuring the progress of the BHELP into the future.

BHELP Steering Committee

The Steering Committee is the governing body charged with administration of the budget and overseeing the direction and strategic alignment of the BHELP with overarching funding principles.

The BHELP Steering Committee held its first meeting on 12 October 2015 - Marion Browne (Broken Hill Lead Reference Group and Councillor) was appointed Chairperson at this meeting.

The Committee comprises two (2) representatives from the NSW EPA, two (2) representatives from NSW Health, two (2) representatives from the Broken Hill Lead Reference Group (BHLRG) and five (5) representatives from the Aboriginal Lead Reference Group (ALRG) – members of the ALRG attend meetings on a rotational basis.

Committee members

Marion Browne – Chairperson, BHLRG

Gary Whytcross – Regional Director South & West, NSW EPA

Craig Bretherton – Manager South West, NSW EPA

Dr Therese Jones – Director, Population Health Western NSW & Far West Local Health District

Professor David Lyle – Head of Department, Broken Hill University Department of Rural Health, University of Sydney

Cathy Dyer – BHLRG

Tegan Hinchey Gerard – ALRG

Jamie Love – ALRG

Kaylene Kemp – ALRG

Ann Bennett- ALRG

Anthony O'Donnell – ALRG.

Steering Committee meetings and member attendance

	12 October 2015	25 November 2015	24 February 2016	10 May 2016
Marion Browne	X	X	X	X
Craig Bretherton	X	X	X	X
Dr Therese Jones	X	X	X	X
Cathy Dyer	X	X	X	X
Professor David Lyle	X	Apology	X	X
Gary Whytcross	X	X	Apology	X
Aboriginal Lead Reference Group – Kaylene Kemp, Ann Bennett, Jamie Love, Tegan Hinchey-Gerard, Anthony O’Donnell	Aboriginal Lead Reference Group was not appointed until February 2016	Aboriginal Lead Reference Group was not appointed until February 2016	X	X

Aboriginal Lead Reference Group

The establishment of an Aboriginal Lead Reference Group (ALRG) was approved by the Steering Committee at its February meeting.

The Group comprises five (5) Aboriginal representatives from a broad range of backgrounds in the local community. The ALRG is an important stakeholder consultation tool, providing two-way conversation between BHELP and the local Aboriginal community – who are over-represented when it comes to incidences of high blood lead levels.

BHELP project team

The BHELP project team works closely with key stakeholders and the local community to coordinate the work priorities of the BHELP under three key focus areas:

Research and monitoring

- Review previous lead strategies at Broken Hill
- Identify remediation priorities
- Identify contamination and re-contamination processes and sources
- Research and develop best practice in lead abatement
- Plan an abatement program that can be carried out systematically based on existing data and the potential for exposure for young children across Broken Hill
- Develop cost effective methods for abating lead risks within homes and areas where children congregate such as at preschools and playgrounds
- Develop a modern interventions education and awareness program (eg home hygiene for children with very high blood lead levels) to assist to reduce high blood lead levels when they are detected

Consultation, education and funding

- Enhance existing services and programs provided by FWLHD and Maari Ma by supporting the existing blood lead level testing program with a particular emphasis on engaging with groups that may have been under-represented in previous testing programs.
- Provide on-going education and advisory role through schools, local media, local health service providers, and local Aboriginal community support groups,
- Identify children with high blood lead levels and look to include these in a program to assess sources and pathways of lead exposure within homes
- Engage with BHLRG to identify priority areas/issues
- Engage with owners of contaminated land (private and government) to identify priority areas/issues
- Initiate active public education programs and community engagement campaigns, with a focus on establishing adequate lead hygiene standards within the community,
- Prepare applications for external funding

Remediation

The project team will co-ordinate the implementation of on-ground remediation of sites in priority order, developed from:

- the research and monitoring stage of the program
- priorities and issues identified by the BHLRG
- priorities and issues identified during key stakeholder and community engagement.

Staff and responsibilities

The NSW EPA manages the administrative functions of the BHELP project team. The team has five (5) full time staff based in Broken Hill.

- Project Manager – oversees the team and overall project management, reports to BHLRG and the BHELP Steering Committee.
- Technical Support Officer – undertakes on the ground assessment work of lead contaminated lands, provide technical input to the priority areas for remediation
- Community Education Officer – provides on-going awareness and education of lead issues to the community, to schools, to families, via media and communications materials

- Aboriginal Liaison Officer (identified position) – provides a linkage into the local Aboriginal community, to liaise with families of high risk children, to ensure high risk groups are identified and encouraged to participate in the program.
- Administration Officer – provides administrative support to the team.

Broken Hill Lead Reference Group

The Broken Hill Lead Reference Group (BHLRG) - facilitated by the Broken Hill City Council (BHCC) - is an important community consultation tool, providing guidance and feedback to BHELP through its meetings and the BHLRG Integrated Strategy.

The BHLRG meets at least quarterly – prior to the Steering Committee Meeting - and the BHELP project manager provides regular reports to the group on program progress and gathers invaluable feedback for the strategic direction of key projects.

CHAIRPERSON'S REPORT

I am pleased to present the 2015-2016 Annual Report of the Broken Hill Environmental Lead Program (BHELP) Steering Committee, outlining activities of the program across its three key focus areas.

The year has seen the program build solid foundations in the development of pragmatic, cost effective and sustainable solutions to the issue of lead exposure and elevated blood lead levels in Broken Hill children.

In May 2015, a group of academics were engaged to reach a consensus on the key focus areas for the research and monitoring components of the BHELP. Three significant research projects – a project to identify lead 'hotspots' through data mapping, a contemporary dust analysis project and an audit of previously remediated sites - were identified as part of this process and endorsed by the Steering Committee at its inaugural meeting on 12 October 2015. These projects have all progressed well - in-line with their project plans and budget - and will inform the strategic direction of the program into the future.

Engaging and partnering with key local stakeholders is also critical to the program's success, and during the reporting period, Memorandums of Understanding (or MoUs) were signed with the Far West Local Health District (FWLHD), the Broken Hill City Council (BHCC) and Maari Ma Health Aboriginal Corporation (Maari Ma).

The funding partnership with FWLHD has already seen enhancements to its existing program of blood testing and monitoring – to increase blood lead level screening rates of all children 1-4 and will kick start a research project, led by the University of Sydney, Department of Rural Health (UDRH), to identify risk factors influencing elevated blood lead levels in Broken Hill.

The agreement with BHCC has seen the commencement of a major project to remediate lead on public land - according to an annual work schedule prioritised and approved by the Committee. The first remediation works started in June, targeting the Willyama Common (behind Queen Street) and Robinson College. A lead dust minimising device has also been installed on a new council street sweeper and a schedule developed to target streets identified as lead 'hotspots'.

The MoU with Maari Ma has resulted in the start of a home assessment program, targeted at all Aboriginal children under the age of five. As part of the home assessments, Maari Ma has been using an X-ray Fluorescence (XRF) Machine, funded under the program, to instantaneously detect lead levels in soil, dust and paint. This means action can be taken sooner to reduce children's exposure to lead in their home.

During the year, the BHELP coordinated a project to review and enhance the Clinical Guidelines for managing blood lead levels in Broken Hill – ensuring it reflects the reduction in the NHMRC guideline level from 10 to 5µg/dL, and contemporary clinical practices of other active lead programs to manage lead exposure in Australia and overseas.

As an extension of the MoUs with Maari Ma and FWLHD, the Committee also endorsed the commencement of a Home Remediation 'pilot' project. As part of the 'pilot', children identified as 'significantly at risk' through testing and home audits, will have their home remediated according to best practice methods. This project will inform the roll-out of a broad-scale home remediation program in line with the enhanced Broken Hill Clinical Guidelines.

The Committee looks forward to building on the achievements of the year, and will continue to work closely with key local government, community and health groups to develop and implement programs to mitigate lead risks and protect the health of Broken Hill children, the wider community and the environment in the longer term.

A handwritten signature in black ink, appearing to read 'Marion Browne', written in a cursive style.

Marion Browne

Chairperson

Broken Hill Environmental Lead Program Steering Committee

BUDGET PERFORMANCE

The following table has been reviewed by the Committee who is of the opinion it provides an accurate overview of program performance against budget objectives for the reporting period:

<u>PROGRAM</u>	<u>TOTAL EXPENDITURE AS AT 30 JUNE 2016 (\$)</u>	<u>PROJECTS 2015 2016 (\$)</u>
BHELP Operations	\$795 600	<p><u>\$795 600 – BHELP Operations</u></p> <ul style="list-style-type: none"> • Salaries - five FTE employees • Costs associated with setting up new office • General operational expenditure
Communication & Engagement	\$393 100	<p><u>Communications and Engagement Strategy Phase One - \$393 100</u></p> <ul style="list-style-type: none"> • Television commercial production – 1x 60 second, 3x 30 second • Website development – www.leadsmart.nsw.gov.au • Television commercial media buy • Radio commercial production and media buy • Direct Marketing – LeadSmart letter and 2 brochures delivered to 10,000 households in Broken Hill • Facebook advertising / social media campaign • Marquees – four of different sizes for use at different promotional and community events • Website hosting and maintenance • Hard copy LeadSmart collateral - brochures, posters, cookbooks, recipe cards, early intervention booklets, signage, promotional banners, diet prescription, educational flipbook, colouring books.
Indigenous Children	\$250 000	<p><u>\$250 000 - Maari Ma Health Aboriginal Corporation to implement specific monitoring and services for Aboriginal children</u></p> <ul style="list-style-type: none"> • Employment of two (2) Lead Community Liaison Officers

		<ul style="list-style-type: none"> • Lead testing program • Implementation of home assessments program for all children with blood lead levels $\geq 5\mu\text{g/dL}$ • Remediation activities • Medical supplies • Plant and equipment • Lead health promotion activities • Purchase point of care equipment and necessary consumables to enable full blood count and iron testing in the course of a child's blood lead management.
FWLHD	\$250 000	<p><u>\$150 000 - Child & Family Health to enhance existing lead monitoring & associated services.</u></p> <ul style="list-style-type: none"> • Employment of a Lead Health Education Officer • Lead Testing program • Implementation of hospital and GP based lead testing program • Implementation of home assessments program for all children with blood lead levels $\geq 5\mu\text{g/dL}$ • Remediation activities • Lead screening and cord blood testing medical supplies • Lead health promotion activities • Purchase point of care equipment and necessary consumables to enable full blood count and iron testing in the course of a child's blood lead management. • Implementation of an early intervention program through the midwifery department of FWLHD • Plant and equipment. <p><u>\$100 000 Research current risk factors.– Sydney University Department of Rural Health (UDRH)</u></p> <ul style="list-style-type: none"> • Design and implement a study to evaluate the environmental, behavioural and sociodemographic factors or risks that contribute most significantly

		<p>to blood lead levels of $\geq 5\mu\text{g/dL}$ among young children in Broken Hill.</p> <ul style="list-style-type: none"> • Employment of a Research Officer / Environmental Scientist to oversee study • Establish a research reference group • Engage the services of a biostatistician to assist with project • Engage with relevant community groups.
<p>Research and Monitoring</p>	<p>\$244 400</p>	<p><u>\$50 900 –XRF analyser (Olympus)</u></p> <ul style="list-style-type: none"> • Purchase of handheld device that instantaneously detects lead levels in dust, dirt soil and paint • Formal training of staff from a number of agencies – Child & Family Health, Maari Ma, NSW EPA, Public Health, Broken Hill City Council, BHELP - to obtain an operator’s licence. <p><u>\$42 500 – Data for mapping projects (Macquarie University)</u></p> <ul style="list-style-type: none"> • Access and transfer of over 20,000 existing data sets or records into one software system to identify or map lead ‘hotspots’ or areas that require further investigation or remediation. <p><u>\$14 900 - Audit of previously remediated sites (Sydney University)</u></p> <ul style="list-style-type: none"> • Design and implement study • Conduct sampling at approximately 200 previously remediated sites • Provide project report findings. <p><u>\$136 100 - Contemporary Dust Analysis Study (OEH Climate and Atmospheric Branch)</u></p> <ul style="list-style-type: none"> • Design and implement a three-year study to determine the contribution of current dust emissions from the Line of Lode

		<p>and mining leases, compared with historic emissions ('legacy lead') to existing lead levels in dust and children's blood.</p> <ul style="list-style-type: none"> • Purchase and installation of nine dust gauges at five sites across Broken Hill.
Clean Up / Remediation	\$516 900	<p><u>\$11 800 - Community Hub project.</u></p> <ul style="list-style-type: none"> • Purchase and installation of groundcover to minimise lead exposure for Aboriginal children attending the facility <p><u>\$400 000 – Public Land Remediation Project (Willyama Common / Queen Street)</u></p> <ul style="list-style-type: none"> • Site supervision • Project management • Fencing – replace existing fence with higher and stronger fence to deter access to area • Site preparation – clearing / excavating • Repair of eroded sides of tailing dams • Site remediation – quarrying and spreading limestone • Site remediation – purchase and spreading topsoil • Site remediation – purchase and spreading mulch • Plant • Labour • Materials. <p><u>\$50 000 - Street Sweeper (BHCC)</u></p> <ul style="list-style-type: none"> • Installation of a dust control system / spray kit on new street sweeper – to keep lead dust generated by sweeping activities to a minimum and to avoid recontamination of previously lead remediated sites • Increase street sweeping schedule / sweeping time - priority given to local streets with known high lead levels in storm water sediment /runoff.

		<p><u>\$55 100 'pilot' home remediation program.</u></p> <ul style="list-style-type: none"> • Project planning and development of assessment tools • Identification of five children classified as significantly at risk – through a combination of blood lead level testing levels (> 15µg/dL)and home assessments, where significant lead exposure risks were identified • Relevant negotiations and approvals family / tenant / landlord to undertake remediation works at home • NSW Public Works - remediation works including site assessment, excavation of soil or other material with high lead levels and replace with a combination of crackerdust and or loam.
<u>TOTAL EXPENDITURE</u>	\$2 450 000	\$2 450 000
<u>TOTAL BUDGET</u>	\$2 450 000	\$2 450 000
<u>NET RESULT</u>	\$0	\$0

SUMMARY OF BHELP ACTIVITIES ACROSS FOCUS AREAS DURING 2015-2016

Mapping of blood lead levels, soil and dust historic data

During the reporting period, the project team commenced a comprehensive project to map existing records of blood lead levels, soil lead levels and individual residence location, age and condition.

The project includes the analysis and overlaying of approximately 20,000 existing records into ARCGIS (mapping software) to pinpoint lead 'hotspots' - individual residences and areas of contaminated land (soil, dust, dirt) associated with repeated elevated blood lead levels.

By end of financial year, base mapping data had been supplied and loaded into ARCGIS, with only one data set remaining to be uploaded into the system.

This project will direct efforts to identify areas or 'hotspots' that require lead remediation as part of the BHELP.

Contemporary dust analysis project

The Office of Environment and Heritage (OEH), Climate & Atmospheric Science Branch, was engaged to design and manage the three-year study to determine the contribution of current dust emissions from the Line of Lode and mining leases, compared with historic emissions ('legacy lead') to existing lead levels in dust and children's blood.

OEH has submitted the final project plan for Peer Review and the BHELP project team has negotiated agreements for the housing of five (5) high volume dust gauges at various locations across Broken Hill – two (2) in the South, two (2) in the North and one (1) in West Broken Hill. Contractors are finalising installation of the gauges in readiness for the commencement of the study.

The project will analyse and monitor sources of lead dust to inform the development of contemporary and sustainable community lead exposure reduction initiatives. The dust gauges will also enable monitoring of the effectiveness of contemporary projects into the future.

Audit of previous remediation programs

Dr Stephen Cattle, Associate Professor in Soil Science from the University of Sydney, was engaged to undertake this audit that will review the long-term effectiveness of previous lead remediation programs carried out in homes and other sites in Broken Hill.

The study plan received ethics approval from both the Greater Western Area Health Service (GWAHS) and the University of Sydney. In mid-September 2016, Dr Cattle and his team will commence sampling soil at approximately 200 randomly selected sites including homes, vacant blocks, footpaths and nature strips, primary schools, preschools and kindergartens.

Current soil lead levels will be compared with those prior to previous remediation works. Study results will give direction to the key components of a broad scale contemporary remediation program implemented by BHELP – ensuring that the most cost effective, practical and sustainable programs are delivered for the Broken Hill community.

Review of Broken Hill Clinical Lead Guidelines

In November 2015, the Steering Committee approved the engagement of Dr Garth Alperstein (retired community paediatrician and Maari Ma's Healthy Start consultant) to complete a draft review of the *Broken Hill Clinical Lead Guidelines*.

In reaching its decision, the Steering Committee was of the position that the guidelines - used for managing blood lead levels in Broken Hill - were out of date and did not reflect current guidelines or current practices. Specifically, the guidelines were developed before the NHMRC lowered the Australian threshold for investigating blood lead levels – from 10µg/dL to 5µg/dL. In addition, the levels at which the intervention and active case management are recommended were identified as considerably higher in Broken Hill than in other communities with other active lead exposure reduction programs.

The draft revised guidelines have been developed and independently reviewed by Dr Alison Jones from University of Wollongong. The draft recommends a much stronger focus on nutrition, including screening for low iron levels and more intensive case management activity including remediation of homes and other places children spend significant amounts of time.

Funding arrangements, formalised through MoUs with the BHELP, have allowed both Maari Ma and Child & Family Health, to adopt a proactive clinical approach to mitigating risk to Broken Hill children - by implementing the practical management activities of the draft guidelines. This includes:

- Home assessments / audits offered to all children at 5µg/dL or above. This is prioritised based on level of risk of those assessed.
- Basic home remediation resources prioritised based on known risk factors.
- Frequency of testing and re-testing at various blood lead levels
- Dietary recommendations
- Iron studies.

Community Hub remediation project

Compass Housing is a not for profit organisation providing tenancy and property management services in NSW and Queensland. In Broken Hill they manage 211 properties with a high percentage of Aboriginal tenants.

In September 2015, Compass Housing opened the 123 Community Hub – located at 123 Creedon Street. The Hub operates various services and programs to support inclusion and provide an opportunity for positive experiences for the Aboriginal community in the area. This includes playgroups and other programs for families and young children.

At its October meeting, the Steering Committee approved funding that has seen the completion of remediation works, replacing the existing front yard dirt surface with synthetic grass – providing a barrier and ‘lead safe’ play area for children and minimising lead dust in and around the facility.

Purchase of portable X Ray Fluorescence (XRF) analyser

At an out of session meeting in November 2015, the BHELP Steering Committee approved the purchase of a portable X-Ray Fluorescence (XRF) machine.

The XRF was supplied by Olympus who delivered training / licencing sessions with relevant staff from BHELP, Maari Ma and Child & Family Health in December 2015.

The XRF is now used routinely by Child & Family Health and Maari Ma for analysing the home environments of those children identified with elevated blood lead levels. It is also used by the BHELP project team to pinpoint lead ‘hotspots’ in playgrounds, parks, schools, preschools and public land as part of the research and monitoring, and remediation components of the program.

The XRF provides immediate analysis of lead levels in dust, dirt, soils and paint – reducing time, analysis and laboratory costs of lead levels. The previous method required collecting samples in the field, sending off to laboratory for testing and awaiting results.

By the end of June 2016, 85 properties had been screened by the XRF, with 679 soil and 125 paint samples tested. The estimated cost saving of using the XRF for screening over this period is \$13,552, with an estimated saving of \$250,000 over the lifetime of the program.

Memorandum of Understanding with Maari Ma

In December 2015, the BHELP and Maari Ma signed a Memorandum of Understanding (MoU) to address the overrepresentation of Aboriginal children in incidences of elevated blood lead levels.

The partnership includes a range of programs, such as targeted education and awareness raising about lead, and the development of best practice testing, monitoring, home assessment and remediation programs.

Maari Ma's lead team is currently working on a project to conduct assessments on the homes of all Aboriginal children in Broken Hill under the age of five - including the homes of significant carers.

Home assessments are undertaken on a 'risk based' system, with priority given to homes of those children with significantly elevated blood levels. The aim of this project is to assess lead exposure pathways in the home, educate the family on how to minimise exposure, and where necessary will be used by Maari Ma to customise and coordinate the home remediation works undertaken by NSW Public Works Advisory.

Where simple measures can be taken to eliminate risks, the family are provided with targeted and practical incentives, such as cleaning kits and sandpits, to minimise exposure to lead.

Community Engagement Strategy

At its February 2015 meeting, the Steering Committee endorsed the commencement of a contract with L+L Design to deliver a range of communications materials to support the BHELP stage one Community Engagement Strategy.

The aim of stage one is to raise awareness in the community about the lead issue and educate on the simple and affordable steps – like hygiene, nutrition and getting tested - that can be taken to help lower blood lead levels.

Following award of contract, the project team engaged with key local stakeholders to 'fine tune' communications items to ensure material design and content would resonate with and have the desired impact on the target audience groups within the local community. A communications consultative group was formed, consisting of representatives from both Far West Local Health District - Child & Family Health, Maari Ma and a Community Dietician.

A comprehensive suite of communications materials have been developed including television and radio commercials, a new website, brochures, posters, a cookbook, recipe cards, metal signage, colouring books, educational materials and a Facebook page.

In-line with government policy, the advertising components of the campaign were submitted to a Department of Premier & Cabinet Peer Review Panel in June to ensure the spend, materials and messaging were appropriate. The campaign will be launched in late October to coincide with National Children's Week and International Lead Poisoning Prevention Week of Action.

Stage two of the Community Engagement Strategy will focus on targeted education and training programs for key audiences such as Aboriginal and non-Aboriginal preschool and primary school children, their parents and community members that might be a higher risk of lead exposure such as tradespeople and contractors. A strategy for this stage will be developed and presented to the Steering Committee for endorsement.

MoU with Far West Local Health District

In April 2016, the BHELP signed a MoU with Far West Area Health District (FWLHD) that will enhance the existing program of blood testing and monitoring and assist in the development of a proactive and informed approach to addressing elevated blood lead levels.

Partnership funding has already seen FWLHD recruit a new Lead Health Education Officer at Child & Family Health, and will allow the expansion of its existing testing program to include routine blood lead screening - in-line with immunisation and blood tests - at both the hospital and at local GP clinics. These resources support the commitment to increase blood lead level screening rates to 100 per cent of all children aged 1-4. In addition, the funding has meant Child & Family Health has been able to re-establish and extend home visits and audits to all children at and above the NHMRC recommended investigation guideline level.

As part of the agreement, FWLHD has also contracted the services of the University of Sydney Department Of Rural Health (UDRH) to commence a research project into the behavioural and environmental risk factors associated with elevated blood lead levels. The UDRH has developed and circulated a draft research plan that is being revised for Steering Committee approval. It is anticipated that the research will be completed by November 2016, with a report on study findings finalised by March 2017.

In subsequent years, the FWLHD will develop annual work plans to be endorsed by the BHELP Steering Committee where necessary.

The Blood Lead Health Report for 2015 by the Department of Health was not published before this report was completed. The results of this report will be analysed and assessed in the next annual report scheduled for completion in 2017.

MoU with Broken Hill City Council

In May 2016, the BHELP commenced a formal partnership with the Broken Hill City Council with the signing of a MoU, outlining a number of lead remediation projects over the four years to June 2020.

The projects are aimed at managing and minimising exposure to lead in the local environment and addressing blood lead levels, particularly in children. These include:

Joint co-ordination of the management of lead contaminated public land.

- This includes Council remediation of lead contaminated public land in accordance with an annual work plan.
- The annual work plan has been developed on a priority based system – focusing on projects identified by the BHELP Steering Committee requiring remediation to effectively manage exposure to lead on public sites / land.
- The first remediation project commenced in June 2016 on the Willyama Common behind Queen Street residences and Robinson College.

Overview of Willyama Common Remediation Project

There are two old mine tailings dams located behind Robinson College. These were capped or remediated about 20 years ago, but no work was done on the surrounding areas. Recent soil sampling identified very high lead levels in soil around the base of the old tailings dams, as well as large areas of tailings that had washed or blown from the dams before they were remediated.

This increases the potential of lead exposure for people or pets walking through or playing in the area, and wind or water could carry it to housing in the area. In addition, motor bikes being driven in the area were damaging the cover on the tailings dams and beginning to expose tailings, and prevent soil from stabilising - increasing potential lead exposure to people living in the area.

The works include excavations and covering or surface capping of lead contaminated soil with clean material – such as limestone, clean soil and mulch - to provide a barrier to loose soil and minimise lead dust. A new, higher stronger permanent fence will also be placed around the perimeter of the affected area to limit accessibility. Eroded areas on the sides of the tailings dams will also be repaired.

The project has met all time and budget indicators as outlined in the work plan.

Ongoing annual maintenance of Council parks and playground equipment.

- High pressure cleaning of playground equipment and surrounding surfaces will continue weekly at Sturt and Duff Street Park.
- Facilities and signage will be regularly inspected and maintained at Duff, Sturt and AJ Keast Parks to ensure that children are able to wash their hands after playing and before eating
- Bare surfaces at local parks and playgrounds will be tested regularly for lead levels and will be remediated with appropriate ground covers where necessary.

Modification and scheduling of a new street sweeper

- Modification of a newly purchased street sweeper has seen it fitted with a dust control system – to keep lead dust generated by sweeping activities to a minimum and to avoid recontamination of previously lead remediated sites
- Street sweeping schedule will see priority given to local streets with known high lead levels in storm water sediment /runoff

Education

- Ongoing education of Council staff on appropriate lead remediation processes and practices

Pilot Home Remediation Program

In May 2015, the Steering Committee approved funding for the commencement of a 'pilot' project that will see lead remediation work undertaken at the homes of those children identified at 'significant risk' by case managers at both Maari Ma and Child & Family Health.

The project is targeted at those children with confirmed blood lead levels above 15 µg/dL, where significant lead risks are identified by case managers in their homes. This includes soil lead levels ≥1,000 ppm, unstable lead based paint, poorly sealed cornices with evident dust trails from the ceiling.

Remediation works will be based on known effective methods of minimising the lead hazard - as recommended by the individual case manager - including covering soil, stabilising or removing unstable lead based paint, sealing cornices with flexible sealant and cleaning of carpets and soft furnishings.

Agreements with Maari Ma and FWLHD have been finalised to manage and report on this project and ensure consistency in the remediation approach by both organisations.

NSW Public Works Advisory has been engaged as the service provider to carry out the Home Remediation 'pilot' in conjunction with both organisations. The BHELP project team will deliver training to preferred contractors on working safely with lead prior to the commencement of works.

This 'pilot' will be used to develop and 'fine tune' processes for the roll out of the BHELP broad-scale community home remediation program.