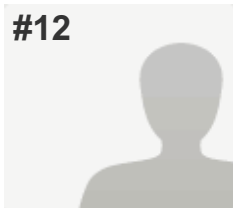


#12

**COMPLETE****Collector:** Web Link 1 (Web Link)**Started:** Wednesday, June 17, 2015 10:28:05 AM**Last Modified:** Monday, June 22, 2015 2:19:14 PM**Time Spent:** Over a day**IP Address:** 152.91.9.167

## PAGE 1: CONTACT FOR FURTHER INFORMATION

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<b>Q2: Country?</b>	Australia
<b>Q3: Jurisdiction / Organisation</b>	Commonwealth/ Department of Infrastructure Aviation and Airports
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## PAGE 3

**Q5: What does the term BROWNFIELD mean in your country?**

A brownfield is defined as being a site that has been contaminated by a previous or existing industry. It is a site that provides difficulty in development due to the risk to public health from the contamination.

**Q6: Is the presence of contamination essential for a site to be considered a brownfield site?**

Yes

**Q7: Are brownfields managed through the normal processes applying to land development, or are there alternative processes or laws that are specific for managing (and developing) brownfields? Please detail the legal framework that is used/applied for managing brownfields. If this is different from the framework normally applied, please detail the key differences.**

The legal framework used on Commonwealth owned Airports is the Airport (Environment Protection) Regulations 1997(AEPR). From my knowledge it is the only Australian Commonwealth Regulation for Contaminated Sites. At the moment the Regulation is out dated and is under review. However there are areas in the regulation that prescribe that the National Environmental Protection Measure is followed which is the national framework for Australia. The AEPR can differ to the national framework (NEPM) the key differences are:

1) The AEPR defines remediation objectives,  
 2) If the remediation plan takes longer than 6 months to develop the AEPR requires a remediation plan progress report.

3) The AEPR requires remediation plans to be approved by environmental officers,  
 If a remediation plan is approved by an environmental officer. The environmental officer must monitor the implementation of it.

4) If a tenant or Airport is undertaking monitoring of a site, if the monitoring discloses pollution above the prescribed triggers in the AEPR schedules 2 and 3 the tenant or Airport have 14 days to notify the Environmental Officer and provide a written report. The report requirements include the nature of pollution, location and affected environment, date and time of when the pollution may have occurred and the details of remedial action.

**Q8: Is there a specific inventory of sites that meet the above definition of a brownfield (as opposed to inventories / registers of contaminated sites)?**

No

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**Q9: Please provide details such as a web link.**

*Respondent skipped this question*

**Q10: How often is the brownfields inventory updated and by which authorities/organisation(s) (e.g. national – Department or Ministry, specific organisation [e.g. land registry/ site inventory, public development enterprise, etc.], regional – regions, provinces, states, autonomías, etc., local – municipality)?**

*Respondent skipped this question*

**Q11: What is the extent of brownfields in your country (e.g. number of hectares)?**

I have no idea as the Adelaide, Darwin and Parafield Environmental Officer I only know what sites are on the Airports.

**Q12: Is this a very minor percentage or a significant percentage of the total land that is being developed?**

*Respondent skipped this question*

**Q13: Of the potentially available Brownfields, what percentage is being developed over the next 5 year period?**

*Respondent skipped this question*

**Q14: Is there any evidence that the extent of brownfield land is growing, stable or reducing over time?**

Growing,  
Please give details  
As mentioned above I can only answer from a Airport perspective however the development on Airports is increasing. Every Airport has 5 year master plan which identifies the next areas for development for the next 5 years. About 40% of these are Brownfields.

**Q15: What is the typical time taken for developing a brownfield site?**

Between 5 and 10 years

**Q16: Is this different from the time taken for developing large areas of greenfields land? If there is significant difference, why is this?**

Yes,  
If there is significant difference, why is this?  
From my perspective it is because sometimes it is very hard to define who is responsible/liable for the source of pollution and the legal argument for who pays for the remediation can take years. Once liability has been decided the investigation and remediation is quite quick. A second show stopper can be cost if a soil and groundwater investigation reveals a large amount of contamination and a costly remediation a development can be cancelled. I have had experience with a number of sites where the tenant has declared bankruptcy before completing a soil and groundwater investigation/remediation.

**Q17: If there is a law/policy/regulation regarding brownfields, what are the key principles of this (e.g. integration with land planning legislation / regulation, fit for use vs. land uses, management tools such as restriction of uses)?**

For the Department of Infrastructure section Aviation and Airports. The Airports are governed by the Airports ACT and the Airports Environment Protection Regulations (1997) (AEPR). With respect to the Brownfields sites the following Airports Act and the Airport Environmental Protection regulations (1997) are designed to protect, monitor and remediate existing brownfields sites. The design incorporates the most recent environmental standards and measures and also incorporates all construction on Commonwealth Airports. The design also prescribes the AEO as an overseer/reviewer of these principles. The following is a description of how the process works for Brownfields sites.

The ACT is the over arching document and prescribes that all airports are required to write a 5 year planning document a Master Plan that is updated every five years. The Airports are required to include in the Master Plan a discussion that all future developments at the airport are undertaken in accordance with relevant environmental legislation and standards. The Master Plan is to include a framework for assessing compliance at the airport with the relevant environmental legislation and standards. This is called the Airports Environmental Strategy. With respect to Brownfields sites a Airport will produce a Contaminated Sites Register (CSR) as a component of the environmental strategy. The CSR incorporates all existing brownfields sites.

The ACT requires that all studies/research are recorded, the specific measures/actions of the airports for environmental management of the sites as well as a time frame. The AEPR then defines in further details that a commonwealth owned airport will follow the NEPM. The CSR's are very detailed and updated they include the NEPM, the AEPR and the future land uses in their risk assessments. The risk assessments are incorporated into the register and lead the decision making for the final actions, risk priorities, and controls written on the site register. The Airports ACT and AEPR define that an Airport Environmental Officer (AEO) will review the proposed environmental strategy and CSR and provide comments to the Minister of Infrastructure about the environmental strategy compliance, if a non compliance is identified the minister requests that the Airport address it. The AEO is also required to oversee the implementation of the Environmental strategy.

The Airports Act also require that the Master Plan discusses the impacts of any Airport developments on the Environment. The ACT requires an Airport to discuss the future developments in their Master Plan, taking into consideration the latest environmental standards. In the case of Brownfields sites the NEPM.

For all excavations, small constructions and developments the Airport regulations and ACT state that a AEO should review and provide recommendations for all works.

**Q18: Are there legal, policy or regulatory imperatives that require brownfields redevelopment / reuse, or limit the amount of development that can take place on greenfield sites?**

Yes,

If yes please give details

The Airports ACT states that an Airport is required to identify all environmentally significant sites that have been identified by the state of federal conservative bodies. The ACT then prescribes that Airports Environmental strategy needs define the specific impacts measures tooken to reduce the impact on these sites. ie all of these sites are greenfields sites. However there is no measures for greenfields sites that have not been defined as environmentally significant.

**Q19: Are there financial incentives (such as tax breaks, or grants, national / regional special funds) that encourage brownfields redevelopment? For example: State of Wisconsin (United States) Ready for Reuse Grant and Loan Program** Ready for reuse loans and grants are used for environmental cleanup of hazardous substances or petroleum at brownfields throughout Wisconsin. Loan and grant funds can be used for eligible costs incurred during the grant or loan agreement period for cleanup of contamination from hazardous substances or hazardous substances commingled with petroleum. Loans. All loans are zero interest and are for long-term projects. Applicants should give strong consideration to applying for larger loan amounts (\$250,000 or greater). Grants. The maximum grant amount is \$200,000 per site. Grants will be awarded to projects that can be completed in two years. Grant applicants must own the property. Financial requirements. Loan and grant applicants must provide a minimum of 22 percent of the requested funds as a match contribution. Other state or local (but not federal) grants may be used as match “provided that the grant and loan periods overlap, the grants are for eligible cleanup activities and those activities will be incurred during the same time period.” Source: Kovalick, Walter W., Jr.; Montgomery, Robert H.. 2014. Developing a Program for Contaminated Site Management in Low and Middle Income Countries. World Bank Group, Washington, DC. © World Bank.

No

**Q20: If the brownfields involve land or groundwater contamination, can the future uses of land or groundwater be restricted for an area or precinct of land, so as to reduce the level of remediation / clean up that is required? For example:**a. Can land be zoned to a less sensitive use such as commercial or park that requires less remediation? b. Can groundwater extractive use be prohibited so that the groundwater does not need to be cleaned up / remediated for extractive use? c. Can development of the land have a restriction as to the a particular type of building (eg buildings with water proof and vapour proof basements or floor slabs) to limit the requirement for clean-up / remediation?

Yes the AEPR defines that the operator of an airport must take all reasonable and practicable measures to prevent the generation of the pollution. If an airport can prove that the above methods have met the AEPR considerations that determine whether a measure is reasonably and practicable then the above controls can be applied.

**Q21: Are financial mechanisms [e.g. bonds, warranty, insurance, financial guarantee, etc.] required to ensure that remediation / clean-up will be carried out to the level required, or to address any problems that might appear later? If possible, please detail the existing financial tools and/or give reference/weblink.**

No

**Q22: If the brownfields involve land contamination, is the design of a brownfield redevelopment plan determined on the basis of locating less sensitive land uses on contaminated ground, and more sensitive land use on land that is not contaminated or is less contaminated?**

The remediation of a Brownfields site on a Commonwealth Airport includes the future uses of that site that have been defined in an Airports Master Plan. The future development decisions of an airport are written in the Airports Master Plan and the airports always take into consideration the existing brownfields sites as they are required to by the Airports Act.

**Q23: How is community consultation involved in determining the design of the development?**

When a Airport Master plan is in its Draft stage it is a requirement of the Airport Act that the community is consulted and asked to provide comment on the Master Plan.

**Q24: Does your jurisdiction have any particular brownfield sites that are good examples of how brownfield sites can be restored to more productive use? (provide a link to case study or no more than half a page summary of the site and approach taken).**

Yes the Parafield Airport had a Aeroplane maintenance workshop that was identified as having soil and groundwater contaminated with Chromium. The contamination was identified when the existing tenant was exiting the site. The AEPR requires that all tenants exiting a site must undertake a soil investigation. The soil investigation identified levels of Chromium well above the NEPM and the AEPR Schedule 2 trigger levels. The tenant put forward a remediation program that met the objectives of the AEPR for remediation. However the site was unsafe for use until the remediation was complete. The remediation objectives for the site were designed based upon the AEPR considerations for a reasonable and practicable measure. The risk assessment that defined the objectives included stopping the migration of the pollution and took into account the future uses of the site and surrounding sites, it also took into account the AEPR considerations and the realistic assessment that the site would never be returned to pristine conditions.

The consultant proved that the best method for remediation was geochemical fixation to neutralize the oxidation of the Chromium. This system was used until it had reached saturation point.

The whole investigation and remediation of the site was overseen by the regulator and auditor. This allowed continuity of decision making and ensured that the AEPR were met. The site remained unused for 18months whilst the remediation was in process. The final remediation report has been received. If accepted by the AEO and the Airport the site will be back in use again as a workshop. The remediation had met all of its objectives and the site is no longer a risk to public health. The final report includes a Groundwater Monitoring Plan with triggers that enables the Airport to constantly monitor the risk.

**PAGE 6: CRUCIAL DEVELOPMENTS IN THE FUTURE**

**Q25: Are there any particular problems associated with developing brownfields (particularly those that involve land and groundwater contamination) that need to be improved/addressed (e.g. funding, liability management, organisational issues, achieving closure on land or groundwater remediation / clean up)?**

Yes,

If yes please give details

Yes most definitely funding I have seen companies go bankrupt before they can even contemplate remediating a site.

**Q26: If it is apparent that there are solutions to these problems and work is being undertaken to address these problems, please advise the nature of this.**

The obvious solution is a financial mechanism provided by the government to encourage companies to investigate and remediate contaminated sites.

**Q27: Are there research and development needs to address the problems arising with brownfields?**

Appropriate funding needs to be provided for researchers to develop remediation techniques. Every contaminated site is different and it is never just contaminated with one contaminant normally it is a cocktail of contaminants all interacting with soil or groundwater that is also specific to that region. To design a remediation method specific to a site takes time and money. A second problem is emerging contaminants that has no existing ecological or health criteria. funding is required for the development of the criteria.

**PAGE 7: REFERENCES**

**Q28: Please give most important references (documents, website, projects, and case studies) that could be relevant for explaining your national approach**

The Commonwealth of Australia Airports Act 1996

The Commonwealth of Australia Airports (Environment Protection) Regulations 1997 and National Environment Protection (Assessment of Site Contamination) Measure.