CITY FARM FEASIBILITY STUDY
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Executive Summary
EXECUTIVE SUMMARY

The burgeoning of city farms and community gardens in Australia and around the world reflects society’s concern to reconnect our urban communities with the realities and values of the most basic of human needs - food production. While many of these facilities and programs have been established for relatively limited periods of time, research and literature is demonstrating that their benefits reach well beyond the commercial value of the food itself to educational, cultural and social values for participants and the broader community.

Building on the growing aspirations amongst the community of inner Sydney to develop a city farm, the City of Sydney commissioned this study with the aim of selecting a preferred site and management model. The study draws on current literature on the topic from around the world, best practice examples from Australia and overseas, stakeholder consultation and field work investigations in order to establish issues, objectives, evaluation criteria and recommendations for a future Sydney City Farm.

The best practice review identified that city farms are typically established and managed under three basic models namely, The Stand Alone/Integral Model where the site and facility is self contained, either within/adjointing or entirely independent of other community facilities or public open space; the Articulated Model which combines a number of sites and the Mobile Model which relies on the use of temporarily vacant land for sites and facilities that can be relocated.

The assessment process applies the Quadruple Bottom Line (QBL) factors of Environmental, Social, Economic and Cultural/Governance values to evaluate the issues that will influence the city farm, the benefits it may accrue to its stakeholders and Council and to derive the core Objectives for the project.

A shortlist of four sites were studied in detail as potential locations for the city, farm, namely Sydney Park in St Peters, The Crescent Lands and The Hill / Harold Park - both in Glebe - and the Powerhouse Museum Car Park in Ultimo.

From the evaluation process it is clear that The Powerhouse Museum site most closely meets the criteria for accessibility, land availability, proximity to high population densities, existing complimentary facilities and opportunities for governance partnerships with Council and the community. While the site could exist under a Stand Alone Model, the limited available space for production suggests that it might benefit form being part of an Articulated Model in conjunction with another site with more available production area.

Consequently, the Study recommends that the preferred option should comprise the combination of the Powerhouse Museum Car Park and the Sydney Park sites, managed under the Articulated Model. When consulted on the options the project stakeholders favoured this option, with 71% preferring these combined sites under this model. The study concludes with an Implementation Strategy that outlines the recommended steps in establishing the Sydney City Farm.
SECTION ONE: A SYDNEY CITY FARM
1.1 WHY HAVE A CITY FARM?

Community Garden, Allotment, City Farm, Garden Park, Demonstration Garden, Farmers’ Market, even Community Artist Garden – irrespective of the particular title or distinctive features of the various means or models, community horticulture is rapidly expanding and seen as environmentally responsible by residents of major cities throughout the developed world. Hands on involvement in local food production, composting, and sustainable living or design are seen as tangible expressions of a more comprehensive environmental commitment.

The awareness of concepts such as “food miles”, for example, fostered through movies like “Food Inc” and “End of the Line”, provides city dwellers with a critical measure for the complex processes and environmental consequences related to simply putting food on the home table. At another level, the potential social and health implications due to lack of access to adequate food sources identified in 21.9% of households throughout Sydney’s southwestern suburbs in 2004 have resulted in actions such as “food security” being prioritised as one of the top five policies of national and state health departments.

In a broad sense, the personal involvement in urban agriculture can address some of these issues by promoting educational and employment initiatives relating to the production of fresh fruit and vegetables, particularly locally grown crops and environmental management. And the concept of the “city farm” has been a particular organisational and very popular response to this opportunity.

Irrespective of their varied characteristics or size, the common theme in Australian city farms is their role as engaging centres for learning and community participation. They are an educational resource where not only the local residents, but regional visitors and tourists can learn about food production processes, contemporary environmental issues, sustainable technologies and better practices for everyday living such as composting, recycling, water and energy management. Additionally, city farms can be valuable community building catalysts, forums for networking, focal points for interest groups with shared aspirations towards sustainable lifestyle and urban quality.

In Australian cities, as populations grow and density builds over the next 30 years, most critically in areas of urban infill development, the trend toward community horticulture will bring increasing demand, not only for space, but importantly for the technical knowledge, appropriate infrastructure and camaraderie on which so much of the community gardening movement’s current appeal is based.
PURPOSE OF THE PROJECT
To investigate the concept and models of city farms. Review the potential sites for a city farm within the City of Sydney local government area (LGA). Provide recommendations for a city farm model and site which is intended to be a demonstration site for educating local residents on how to live sustainability.

This project is supported by the City of Sydney’s, Sustainable Sydney 2030 vision. In particular a city farm in Sydney is substantiated by the objective to investigate creating a centre for Sustainable Sydney in the City to showcase design, culture and the built environment as well as providing exhibition and forum space¹.

Limitations of the Study
The study has been limited to the City of Sydney LGA. The scope of the study is limited to investigating the feasibility of a city farm.

AIMS OF THE STUDY
The key aims set by the project brief are to:
1. Research best practice of Australian and international city farm examples, to define a preferred model for Sydney;
2. Define objectives for a city farm for the City of Sydney;
3. Evaluate sites within the City of Sydney LGA for development of a city farm;
4. Recommend a governance structure for the preferred project site(s); and
5. Prepare an implementation strategy to guide Council in delivering a feasible city farm.


City Farm, Chicago
STUDY PROCESS

In conjunction with Councils PCG (Project Control Group) the consultant team developed a study process and program, illustrated in Figure 1. A best practice review of city farm models was undertaken of ten Australian and international projects (see Appendix 4 for details). This review provides an overview of the diversity of city farm models currently in operation and insights into governance structures and revenue resources, which could be adapted in establishing a city farm. This process was key in evaluating both the benefits and considerations of city farm projects, which in turn informed the objectives for a city farm in Sydney.

From this basis the site evaluation process began. A study of the regional context, in relation to the selected sites was assessed to determine accessibility, existing infrastructure, user groups and visitor potential. Individual site assessment was then undertaken, gaining an understanding of the site opportunities and constraints.

Recommendations were provided for the preferred site(s) and the application of a farm and governance model were suggested to best suit a city farm in Sydney. A project implementation strategy was developed to inform Council of the processes involved in getting the project running, liabilities and risks, as well as an indication of timing and costing.

Throughout the study stakeholders were engaged through the application of a social research methodology, this established a process of information flow and feedback. Early in the study, a Consultation Plan was developed to enable effective and timely input. The plan allowed for a range of engagements through individual interviews, questionnaire responses, and stakeholder workshops. The stakeholder group included participants from government authorities, community groups and appropriate education and art institutions. The full Consultation Plan and list of stakeholders is detailed in Appendix 1 and 2.

Figure 1: Study Process
1.2 BEST PRACTICE REVIEW OF CITY FARMS

RE-EMERGENCE OF URBAN AGRICULTURE
The Sydney region has a long history of food production. The Sydney environment provided food, medicines and other every day items to the Aboriginal people. In the early days of European settlement, after many failed agricultural trials, farming was set up with some success on land west of Rose Hill, near Parramatta in 1789.

Agricultural practices have changed vastly from the traditional European practices originally brought to Australia. The most influential transformation is the progression of farming techniques from manual labour to mechanisation. This movement has replaced the reliance on human labour in rural areas, contributing to a decline in the rural population and an increasing number of people moving to cities in search of employment.

Today the production of fresh produce on the fringes of Sydney is currently under threat from Sydney’s expanding urban edge. With the Sydney region accounting for 20% of total vegetable production of NSW and between 80 to 100% of all perishable vegetables. Today more than 75% of Australians live in urban centres. Furthermore as the population becomes more urban, people have lost a working knowledge of rural skills and values.

As these trends bring urban values into confrontation with rural ones, conflicts of land use arise on our city fringe with residential occupants complaining about small farm and rural activities. This conflict compromise quality food lands within close proximity to a major popular centre. The declining agricultural land area within proximity to our cities greatly effects our food security and increases our food miles, with significant economic, social and environmental impacts.

With the more recent interest in the principles of sustainability, patterns of consumption and attitude toward the environment are shifting. Some indication of such trends include an increased involvement in aspects of urban agriculture such as, city farms, farmers’ markets and community gardening. Many of these trends are apparent within the Sydney CBD with the City of Sydney LGA containing 15 community gardens and 4 farmers markets.

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1 Doug Benson and Jocelyn Howell, 1990, Taken For Granted, Kangaroo Press and Royal Botanic Gardens Sydney Kenthurst.
3 Australian Government, Department of Foreign Affairs and Trade, 2008
A CITY FARM DEFINED
City farms have been defined as: Planned initiatives organised and facilitated by a collaborative effort of cooperative individuals, who share the common goal of utilising ecological resources to produce food and flowers in the urban landscape.

There is a diverse range of successful city farm models both in Australia and overseas. Each city farm differs and is unique due to their associated objectives and overarching visions. However, the underlying thread which ties all city farms together is their use of urban agriculture as a platform for delivering an array of social, economic and ecological benefits to local and sometimes regional communities. These benefits are achieved through the delivery of various activities, programs and events, often carried out in conjunction with partner organisations.

As city farms are an emerging phenomenon management structures vary according to individual community requirements, however, for the purposes of this study and based on an overview of a number of city farm models; the key characteristics of a city farm are considered to be a:

• Productive landscape, working with plants, animals and people;
• Educational and network centre;
• Integrated within the urban area;
• Community based project;
• Promotable healthy urban environments and lifestyle;
• Financially feasible enterprise.

MODELS OF A CITY FARM
From the investigation of Australian and overseas examples, city farms can be organised into three main categories of physical site models, namely:
1. A Stand Alone or Integral
2. An Articulated; or
3. A Mobile Model

Stand Alone or Integral Model
The basic feature of such farms is that the infrastructure and functional requirements are located within one central location. The two main variations in how this model may operate, depend on the immediate environment in which the city farm is located.

The stand alone variation, (see Figure 2) is based on a city farm which utilises the entire site, typically seen on smaller sites. The second variation is where a farm is embedded within a larger open space setting, (see Figure 3). This variation on the model does not constitute the entire site, but rather complements a larger expanse of open space, contributing to the diversity of leisure and recreation activities available to users of the open space.

Figure 2: Stand Alone Model; main nucleus city farm models demonstrating, city farm occupying the entire site.

Figure 3: Integral Model;
Articulated Model
This model has a nucleus where the program headquarters are centrally located; however the operation of the farm allows for growth and expansion to new sites, allowing for the integration of other community programs and sites. Typically this model would encompass a network of smaller sites, which collectively comprise a city farm program. The number of sites is dependent upon the amount of land required and accessible to the city farm organisation. This model allows for produce to be grown through smaller and diverse farming operations.

Figure 4: Articulated Model

Mobile Model
This model is based on a transitional concept where the city farm site(s) can be relocated as land uses change and vacant land becomes available within the urban landscape. Typically the land is acquired on a temporary basis from the local government authority or other public agency and developed in the short term for city farms. As the nature of this model is adaptable the city farm operates on varying spatial scales and on impermanent sites.

Figure 5: Mobile Model
BEST PRACTICE EXAMPLES

From the case study of various city farms in Australia and overseas a brief description is provided below of various farms that are operated under the three models described in the previous section.

Stand Alone or Integral Model of City Farms:

Bundoora Park Children’s Farm, Coopers Settlement (Melbourne) is a 10 Ha (24.7 acre) urban farm located with 180 Ha (445 acres) of parkland situated 15 km north east of Melbourne CBD. The farm is a multifaceted leisure and recreation nature park encompassing 180 Ha of open woodland including tourist and recreation facilities, playgrounds and park facilities. In this regard it would conform with the integral variation on this model.

Originally the Childrens Farm, Fauna Park and Historical Centre operated as independent facilities within the larger setting of Bundoora Park. In 1997 the City of Darebin commissioned a Business Development and Operating Plan, this plan effectively brought these facilities together in an attempt to create a financially self sufficient enterprise operating as a tourist and recreation facility.

Coopers Settlement operates as a community facility managed by the City of Darebin management committee. The facility is embedded within the Culture and Leisure Department of local government, which also manages the operational budget. Some state government funding is occasionally received through grant submissions, which when received are matched by City of Darebin. Coopers Settlement operates as a business administered by the City of Darebin committee of management.

Examples of articulated model of City Farms:

CERES Community Environment Park (Melbourne), is based on a main site locality with additional sites for carrying out or contributing to organisation enterprises, programs, activities and/or events. A satellite of the main site is the Merri Creek Market Garden, situated 2.5 km north of the main site along the Merri Creek bike path. The Merri Creek site has been farmed for approximately 150 years and is currently utilised by CERES to grow produce for the weekly organic market, the on site café and food co-operative programs.

Additional to this site is the recently secured Food Connect factory site, located within a few hundred metres of the main CERES site. The Food Connect factory site is utilised for the preparation and delivery of its Food Connect program. The initiative involves distributing organic fruit and vegetables to city residents, sourced from local growers who are paid a fair price for produce. The program therefore seeks to create a socially just and environmentally sustainable food system for urban consumers.

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Earthworks Urban Farm (Detroit), is based on a network of garden sites which are operated from a centrally located and independent headquarters, run out of the Capuchin Soup Kitchen. Earthworks Urban Farm comprises of seven farms located within a 3km radius of the Capuchin headquarters. The main garden site is a 1.5 acre farm with apiary of 30 hives8, located a few blocks from the Earthworks Urban Farm program headquarters. The garden site is run in partnership with the adjoining Gleaners Community Food Bank. The Earthworks garage is located in Detroit which is the site for the Meldrum Fresh Market (Farmers Market).

Examples of Mobile City Farms:
City Farm Chicago (Chicago), is based on the concept of a mobile city farm, or farms. City farms are established on unused city lots, which can be moved as property value and city needs change9. City Farm Chicago is run out of the Chicago Resource Centre and is a not-for-profit environmental education organisation established over 35 years ago. The objective of the farm is to demonstrate sustainable and innovative techniques for recycling and reusing urban waste10. Land for city farm projects is acquired temporarily through land owned and/or managed by the local City Council. The first urban agriculture project was called “Turn A Lot Around” and originated in the 1970’s. In 2005 there were several city farm sites run out of the Resource Centre established on previously abandoned lots within Chicago11.

Support from City Council is fundamental to the continued expansion of the urban farm project. Establishment of the farm project requires City Council support, once established the projects are reported as self-sustaining12. The City Council allows farming of vacant land on the condition that funds of $US 30,000 per acre can be raised to fence the site, remove waste material on site, enrich the soil and commence planting13. Revenue is raised from selling produce grown on site to high end restaurants, additionally local residents pays for farm workers wages and general maintenance of the city farm site.

Potential Application of the Models to the City of Sydney
Many of the city farms investigated for this study can be classified as falling within more than one model. CERES for example was originally a Stand Alone model which has expanded to become an Articulated Model over time through the incorporation of more sites. The City Farm Chicago site could be considered as a number of Stand Alone sites; however the management of the urban farming program through the Resource Centre can result in interpretation as a conceptual model consisting of numerous mobile sites. Consequently, governance structures of city farm models become important when assessing the type of model being investigated.

9 Wilson, T. W., 2010. City Farm, Youtube. Accessed 20.05.10 from http://www.youtube.com/watch?v=3KNc33-XGk
A stand alone Sydney City Farm model would involve the identification of a suitable site for the sole purpose of a city farm. The size of the site required would be dependent upon the enterprises, programs, activities and events which are proposed to be carried out by the city farm organisation.

A Sydney City Farm based on an integral model, could enable a farm to be established within a park without completely changing or compromising existing land use and users. This model has the ability for future expansion of city farm facilities should community stakeholders agree.

The articulated model serves as a useful guide to how a Sydney City Farm could be further expanded from a stand alone site to incorporate additional sites – forming an articulated model. A Sydney City Farm established on a network of sites, administered through a centrally located headquarters, could enable the activation of smaller sites within the urban landscape. These sites could be situated to engage a number of different urban communities within close proximity to that location. Specific enterprises, programs, activities and events could be carried, or a variety of programs could be offered to each site, dependent upon the objectives and vision of the city farm organisation.

A Sydney City Farm based on a Mobile model, would enable the activation of under utilised land within the urban landscape. City farms could be established temporarily on development sites and be relocated as these sites are earmarked for re-development. This would require a relationship with local council for municipally owned sites and a relationship with private landholders if accessing privately owned sites.
City Farm management and operational requirements
1.3 CITY FARM MANAGEMENT AND OPERATIONAL REQUIREMENTS

City farms provide a range of functions and support programs to communities. This section discusses some basic requirements of a city farm and the various structures of management and revenue sources which maybe used to support a city farm.

OPERATIONAL ATTRIBUTES
While the operational setup of a city farm will vary considerably depending on the desired farm model and the individual opportunities and constraints presented. There are some common elements to the establishment of a typical city farm. The matrix illustrated on Figure 6 describes the principal operational dimensions of a city farm.

The elements have been divided into garden infrastructure, produce space and animals. For each component minimum land area is proposed, these areas were established from research of city farm and urban agricultural sites. This matrix provides a benchmark for the site selection process of this study.

Size
This assessment indicates that the minimum size for a city farm would be approximately 1.3 acres/0.5 Ha extending to 2.4 acres/1 Ha, depending on existing site infrastructure and requirements. This minimum requirement of 1.3 acres/0.5 Ha would allow for the demonstration of animal systems, including smaller animals such as chickens, ducks and rabbits, precluding larger four legged animals such as cattle, sheep and pigs etc.

A site of this size would require the use of surrounding off-site external facilities to carry out enterprises such as a cafe, education programs, event hosting to effectively carry out a city farm project.

Social and educational focus
Response from the stakeholder workshops indicate a City Farm in Sydney should have a strong social and educational focus. Consequently the Sydney City Farm may need to include:

- Large demonstration garden sites.
- Event spaces.
- Workshop spaces.
<table>
<thead>
<tr>
<th>Functional Elements</th>
<th>Minimum Area m²</th>
<th>Components</th>
</tr>
</thead>
<tbody>
<tr>
<td>Produce Space</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Garden demonstration space</td>
<td>1000</td>
<td>Staff - horticulturalist</td>
</tr>
<tr>
<td>Produce space</td>
<td>2000</td>
<td>assumed 15m² required for one allotment, includes 10m² of produce space</td>
</tr>
<tr>
<td>Herb garden</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Fruit and nut trees or orchard</td>
<td>1500</td>
<td>will accommodate approximate 90 citrus trees</td>
</tr>
<tr>
<td>Raised bed (wheelchair accessible)</td>
<td>150</td>
<td></td>
</tr>
<tr>
<td>Children’s play space</td>
<td>100</td>
<td>swing set, spring animals</td>
</tr>
<tr>
<td>Propagation area</td>
<td>200</td>
<td>hot house</td>
</tr>
<tr>
<td>Garden Infrastructure</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tool shed and storage</td>
<td>50</td>
<td>1 x farm vehicle bay, tools, pots, wheelbarrows etc. Allow for farm vehicle</td>
</tr>
<tr>
<td>Drop off and storage areas</td>
<td>40</td>
<td>temporary storage for mulch, stakes, loading and unloading produce etc</td>
</tr>
<tr>
<td>Composting area</td>
<td>25</td>
<td>3 compost bays (1500mm dia.x 800mm high)</td>
</tr>
<tr>
<td>Toilets</td>
<td>20</td>
<td>To accommodate: 2x male, 2x female and 1x disabled</td>
</tr>
<tr>
<td>Water catchment/storage system</td>
<td>varies</td>
<td>1 x tank 15m² (50,050Litre)</td>
</tr>
<tr>
<td>Cafe/social breakout space</td>
<td>200</td>
<td>cafe and kitchen, storage areas</td>
</tr>
<tr>
<td>Market space</td>
<td>500</td>
<td></td>
</tr>
<tr>
<td>Cold storage</td>
<td>5</td>
<td>cold room</td>
</tr>
<tr>
<td>Car parking</td>
<td>75</td>
<td>5 spaces, at 15m² per space</td>
</tr>
<tr>
<td>Bike parking</td>
<td>10</td>
<td>to accommodate 8 bikes</td>
</tr>
<tr>
<td>Worm farm</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Circulation space</td>
<td>varies</td>
<td>10% of total site area</td>
</tr>
<tr>
<td>Staff rooms and facilities</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>On site office</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>Teaching/workshop space</td>
<td>250</td>
<td>Staff - manager/coordinator &amp; security. Directional and educational signage</td>
</tr>
<tr>
<td>Animals</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Small animal enclosure</td>
<td>100</td>
<td>space for approximately 8 hens</td>
</tr>
<tr>
<td>Large animal enclosure</td>
<td></td>
<td>Staff qualified for the exhibition of animals requires 2 x full time</td>
</tr>
<tr>
<td>cows</td>
<td>350</td>
<td>trained staff. Security fencing</td>
</tr>
<tr>
<td>goats</td>
<td>250</td>
<td>1 x goat (hand fed)</td>
</tr>
<tr>
<td>sheep</td>
<td>250</td>
<td>1 x sheep (hand fed)</td>
</tr>
<tr>
<td>Off Display Enclosure (for quarantined and</td>
<td>varies</td>
<td>Nominal 20% of total enclosure space</td>
</tr>
<tr>
<td>respite)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mobile Exhibit Enclosure</td>
<td>60</td>
<td>Space for 2 cows or 3 sheep. Trailer for transporting animals</td>
</tr>
<tr>
<td>Food storage</td>
<td>100</td>
<td>Hay shed</td>
</tr>
<tr>
<td>Visitor facilities</td>
<td>50</td>
<td>Toilets, hand washing, seating and shelter</td>
</tr>
</tbody>
</table>

*Figure 6: Operational elements, areas and components for a typical city farm site model*
Programs
In addition to the physical characteristics of a city farm, there are a number of community programs which city farms typically operate. Some examples of programs which could be included in the operating of a City Farm in Sydney include:

- Some gardens in NSW have been used as training venues for the Environmental Protection Authority's 'EarthWorks' community waste education program.
- TAFE Programs (associated with horticulture or urban agriculture)
- School education excursions
- Young Farmers Programs
- After school programs
- Men’s Sheds
- ‘Work for the dole’ programs
- Correctional facility work programs, Court ordered community work or Women’s prison programs
- Riding for the disabled e.g. Muyuna City Farm, Victoria
- Disabled groups visitor programs e.g. Nulson at Perth City Farm, WA.
- Mental health and disability programs e.g. Disability and the Arts, WA

If there were surplus food produced there maybe opportunities for a city farm to provide produce and support to food co-operatives. The ability for a city farm to provide food that is surplus to its own grower’s needs is dependent on the size of the farm and capacity to grow food. Some examples of co-operatives within the Sydney City area are:

- The Broadway Food Co-op (UTS)
- The Sydney Uni Food Co-op
- Thoughtful foods (UNSW)
- Alfalfa House Food Co-op
- Jura Books Food Co-op Petersham
- Chippendale Fresh Food Co-op
MANAGEMENT AND GOVERNANCE STRUCTURES
Background research has identified two governance structures which are common to city farms. These are:

Government owned / managed / funded
Council managed city farm models operate under a corporate objective to provide a community facility to local residents. Budgets are allocated through associated council departments, such as the leisure and recreation department or the sport and leisure department. Local government provides funds for staffing, maintenance of city farm sites, and the delivery of programs, activities and events through the annual local council operation budget. City farms managed by local government generally operate at a deficit funded by council. Examples include Myuna Farm and Bundoora Park Childrens Farm. In this circumstance the priority is not on financial viability but the provision of recreational and leisure benefits to local residents.

Figure 7: Local Government Owned / Managed / Funded
Not For Profit Organisation

Not for profit city farms generate revenue through three main sources, income from farm enterprises, grants and donations from benefactors. Not all city farms receive funding from government organisations or benefactors. Some city farms generate income primarily from enterprises undertaken. A combination of these sources of revenue, acquired by the Not for Profit organisation, is then applied to the management of the city farm, in line with their overarching vision and strategic plan.

Staffing, enterprises carried out on site, maintenance, programs, activities and events are then paid for from revenue sources. While this system allows for people who are interested in the enterprise to be involved, the success of the organisation is also dependent on this interest. There is a significant cost benefit from utilising volunteers who assist with operations. The stakeholder group expressed a preference for governance structure based around a Board or Committee.

Figure 8: Not for Profit Organisation
**FINANCIAL**

A summary from the best practice review of city farm models, governance structure and financial capability is presented in Figure 9, the full benchmark analysis is included in Appendix 4. The review of existing city farms had identified potential revenue sources. These include:

**Enterprises**
- **Farmers’ market**, provides an opportunity for regional farmers to sell produce direct to the consumer as well as an opportunity for the sale of surplus city farm produce. Revenue can be raised from entry fee to the farmers market, hire of stalls to regional farms, and sale of city farm produce.
- **Cafe**, if a cafe is located on site there is opportunity for revenue earning from the profit or from a lease agreement to a third party.
- **Event Space**, providing a base for community events and workshops is an important social and educational component of a city farm. Revenue can be generated from the hire of venue space to community groups or organisations.

**Fees**
- **Admission Visitor Fees**, this includes entrance fees for visitors. Typical admission fees for an individual to a city farm may vary from $3 to $10.
- **Educational Programs**, a city farm is well placed to provide educational tours for schools under the formal educational program. This revenue resource would require an educational program to be set up and staff hired as required to facilitate education programs and tours.

<table>
<thead>
<tr>
<th>City Farm</th>
<th>Size (HA)</th>
<th>Visitation / Year</th>
<th>Expenses</th>
<th>Revenue</th>
<th>Operating Summary</th>
<th>Governance and Management</th>
<th>Funding Revenue</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bundoora</td>
<td>10</td>
<td>48 - 60,000</td>
<td>$668,547</td>
<td>$342,780</td>
<td>Deficit</td>
<td>Branch of Council</td>
<td>State &amp; Local Government &amp; Farm Generated</td>
</tr>
<tr>
<td>Myuna</td>
<td>20</td>
<td>140,000</td>
<td>$650,000</td>
<td>$500,000</td>
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*Figure 9: Comparative benchmarks of City Farms*
• **Community Garden Fees**, typically individuals or organisations are charged a fee for the use of a garden plot. The revenue raised from this is limited, however the provision of community garden plots provides a community service and encourages volunteers and a support base for city farms.

**Funding**

• **Corporate and private donations**, there is potential to attract donations to a city farm through means of sponsorship and philanthropy.

• **Local Government Grants**, there may be opportunity to seek grants for educational and sustainable projects from local government.

• **State Government Grants** there may be opportunity to seek grants for educational and sustainable projects from state government.

Research undertaken for this study indicates that city farms are initially reliant on funding to develop their revenue programs. The revenue potential for each of these streams will vary from site to site, consequently there is no specific model of achieving financial sustainability.

The ideal objective is for the city farm to become financially independent of Council. To achieve this the City Farm should set its financial objectives, then organise adequate funding to meet those objectives both in the establishment and ongoing management phases.

The message from the stakeholder workshops was the acknowledgement for the needs of initial financial support from local government, followed with sustainable social enterprise with a strong volunteer base.
Defining the objectives for a City Farm
1.4 DEFINING THE OBJECTIVES FOR A CITY FARM

Fundamentally a city farm is as an educational project, demonstrating sustainable initiatives which can be directly applied to urban living in Sydney. Consequently this study values the principles of sustainability. Broadly speaking the definition of sustainability is to; ensure a better quality of life for everyone, now and for future generations to come\(^1\). This direction is consistent with the City of Sydney’s, Sustainable Sydney 2030 policies.

In ensuring that the fundamental values of sustainability are upheld, this study has defined the objectives for a city farm through consideration of the holistic approach of the quadruple bottom line. It is apparent from our best practice review that the governance, management and communities support of city farm project is an important consideration. To this end the addition Governance has been included within the quadruple bottom line. This study has therefore considered a quadruple bottom line to include:

- Environmental;
- Social;
- Economic; and
- Cultural / Governance.

In reviewing the best practice case study and stakeholder input within the workshops and one-on one interviews, we have identified a number of considerations and benefits framed around the Quadruple Bottom Line considerations. Based upon these we have identified the core objectives that can be used in the evaluation of sites for the city farm. A list of organisations which were consulted has been referenced in Appendix 2.

CONSIDERATIONS FOR A CITY FARM

The core consideration of a city farm are detailed as follows:

**Environmental**

- Contamination of soil and land degradation from past industrial land uses.
- Activities within the farm inhibiting or disrupting the activities or amenity of neighbouring land uses.
- Conflict of noise generated from events and group activities with neighbouring land uses.
- Conflict of animal husbandry practices with surrounding residential areas - e.g. noise and smell being perceived as a potential health risk.
- Adequate size of farm to be able demonstrate a workable day to day understanding and application in the sustainable practice of reducing food miles and ensuring food security.
- Adequate size of site to enable a city farm to be established whilst not impinging on existing land user groups.
- Adequate solar access and aspect to support the production of food regardless of season.

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• Exposure of the site area to prevailing winds.
• Impact of city farm activities and construction on existing environmental values such as soil compaction, nutrient load and overland water flows, topography, health of existing vegetation.
• Reliance on resources such as potable water as the main water supply.
• Adequate space and infrastructure to allow for teaching and care of small animals e.g. chickens, native bees.

Social
• Interest in particular horticultural approaches and methods from a few individuals or groups that may not be able to sustain a viable program.
• Provision of adequate and suitable space to support a variety of social and recreational events.
• Issues associated with the provision / additional vehicular access, circulation and parking requirement to the site for visitors and staff.
• Safe and reasonable pedestrian connections, for both local residents and visitors.
• Provision of public transport connections which make logical links between the site, the city and the broader locality.
• Location of the farm central to open space networks of the city, offering evenly distributed participation opportunities for both local and regional visitors.
• Location of the farm relative to existing community groups, to encourage community support and assist in its establishment and on going maintenance.
• Provision of views into the site to ensure security for the farm and safety for all of its users.

Economic
• Ability to seek and secure sponsorship and support funding from both the public and private sector.
• Perception of a city farms being exclusive if entry fees are charged.
• Reluctance from the larger community to allow community resources, financial and otherwise to be dedicated to an individual city farm project.

Cultural/Governance
• Limited interest in a city farm from a few individuals.
• Allowance for development and expansion within the short to medium term.
• Allowance for secure tenure within the short or medium term.
• Compromise of the existing character of the site and its surrounds as a result of the farm and farm activities, such as the visual impact of fencing and allotment gardening.
• An appropriate level of expertise and resources for managing and financing a city farm are available within the local government.
Vandalism and destruction of farm infrastructure which is unsecured and open to the public.

Security of animals kept on site being free of harm or disturbance.

An active volunteer basis throughout the project to ensure there is not an over-reliance on local government to solely finance and manage the city farm.

**BENEFITS OF A CITY FARM**

The principal benefits that will accrue to the community, Council and other parties involved in a future city farm may be summarised as follows:

**Environmental**

- Rehabilitate of heavily degraded sites from past industrial land uses to a productive healthy environmental system.
- Promote environmental awareness toward issues concerning the health of local and global environments.
- Create urban greening by adding to a network of green and open spaces within the urban environment.  
- Promote the use of sustainable technologies and construction methodologies.
- Promote biodiversity of agricultural produce through supporting seed networks and non-genetically modified plant varieties.
- Creates opportunities to reduce the volume of green waste going to landfill by supporting practices such as composting, worm farms and organic based recycling; thereby supporting councils zero waste policy.

**Social**

- Provides both a formal and informal social outlet with opportunities to build community and social networks.
- Creates recreation and passive exercise opportunities in gardening and visiting the farm.
- Offers a connection to natural processes with the benefit of alleviating stress.
- Provides opportunities for fringe community groups operating as not for profit organisations.
- Supports and encourages partnerships with educational institutions.
- Promotes opportunity for interactive child play facilities.
- Encourages consumption and enjoyment of fresh produce through awareness of healthy eating

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4 Somerset and Markwell 2008, Impact of a School Based Food Garden on Attitudes Towards and Identification Skills for Vegetables and Fruit, Griffith University
of Education for Sustainable Development outlined by the United Nations.5

• Provides a setting for adult educational opportunities through formats such as workshops and short courses.

Economic
• Offers training and employment opportunities for people with a wide range of physical and mental abilities.
• Creates opportunities for enterprises such as growers/farmers markets and food co-operatives and organic style cafe/food outlets while opening opportunities for financial support via revenue from commercial enterprise.
• Offers an opportunity for eco-tourism, with the attraction of the city farm extending to both local and international visitors.
• Provides an opportunity for people to grow food at a relatively low cost.

Cultural/Governance
• Educates volunteers and broader community about healthy food.
• Encourages a multicultural approach to sustainability and opens opportunities for skill sharing and innovation.
• Provides an opportunity for positive interpretation of site history, both natural and cultural, within a city farm.
• Provides an opportunity for rehabilitation through the support of court ordered community service and prison employment programs.
• Creates an opportunity for rehabilitation through the support of work for the dole programs.
• Provides opportunities for community ownership leading to greater community participation for mutual benefits.
• Provides opportunities for volunteers with a range of skill bases to setup/participate in farm programs at various skill levels.
• Offers opportunities to showcase a sustainable project in an innovative way.
• Provides opportunities for public/community art by providing space for art installations, festivals, celebrations and performances.
• Provides opportunities for supervised training and work experience to be undertaken with the guidance of trained and experienced staff.

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5 Educational, Scientific and Cultural Organisation (UNESCO) as part of their Decade of Education for Sustainable Development (2005-2014)
OBJECTIVES FOR A SYDNEY CITY FARM
Based on the foregoing summary of considerations and benefits, the following comprise the core objectives for a future Sydney City Farm.

Environmental
Ensure that the City Farm and its site will be:
• Complimentary to and compatible with surrounding land uses.
• Offer a positive environmental outcome for the site and surrounds.
• Create a self sustaining project which is not reliant on off-site resources.
• Capable of accommodating the essential functions of a city farm.

Social
Ensure that the City Farm and its site will be:
• Accessible to local residents as well as visitors travelling from other regions.
• Able to offer a good site exposure to potentially capture the interest of passing visitors.
• A resource to the wider community through the support of a range of community programs and groups.

Economic
Ensure that the City Farm and its site will be:
• Able to provide opportunity to seek financial support from public and private sources to ensure a sustainable enterprise.
• Able to provide employment opportunities and work experience for a range of capacities.
• Able to provide a diversity of enterprises associated with the City Farm.
• Able to be self managed in the medium to long term.

Cultural/Governance
Ensure that the City Farm and its site will be:
• An educational resource, supporting local educational institutions as well as community groups and organisations.
• Available for development within the short to medium term time frame.
• Able to provide a management structure which is closely associated with the operational and financial requirements of the organisation.
2.1 SITE EVALUATION

THE POTENTIAL SITES

Investigations undertaken by Council and the community identified some additional potential sites to those suggested in the project brief. These alternative sites include Wentworth Park, Eveleigh Railyards, Belmore Park, Prince Alfred Park, Barangaroo, the Sydney Water Site at McEvoy and Bourke Streets and rooftops in general. On investigation it became apparent that there was limited development opportunities or community interest of these sites. Consequently the sites which were included in this Study Brief were assessed as possible city farm locations, pending owners agreement. These sites include:

- **Sydney Park**: Sydney Park is a 44 Ha large publicly owned open space and parkland in St Peters. The site was historically used for brick manufacturing from the 1870’s. The clay pits that were used for the brickworks were then used as a municipal waste tip from 1948 to 1976. The possible adaptive re-use and restoration of the kilns could also provide critical infrastructure for housing storage and educational activities. The large scale of the park provides ample opportunity to anchor the farm within the site and allow it to expand in time. The nature of a city farm within such a key area of public open space will require particular consideration to existing users of the park. City farm facilities within the park will consequently need to be well integrated into the existing fabric of the park.

- **The Crescent Lands**: This area is currently tenanted and operating as a semi industrial land use. The land is owned by Council whose intention is to develop the site within five to ten years. It is currently zoned Public Open Space. The Crescent Lands area has an existing community nursery that requires renovation which may potentially work in well with the city farm activities. It is accessible by light rail. The location could provide strong linkages between the Federal and Bicentennial Parks and the planned Harold Park re-development.

- **The Hill / Harold Park**: The site area includes two properties, both under separate ownership: the land known as The Hill which is currently privately owned and a portion of the Harold Park development site to the west of the existing tram sheds. The Hill site has surface level contamination and will require remediation. The existing Harold Park site currently has a master plan proposing an urban renewal development for residential development. This master plan incorporates strong axis of public open space that could be extended to provide a link to a city farm project and Federal Park. The disused Tram Depot is included in the master plan for adaptive re-use including community facilities and could potentially provide an asset for community education and act as a base for the farm.

- **Powerhouse Museum, Ultimo Car Park**: This area includes a disused car park, the land is partly owned by the Sydney Harbour Foreshore Authority (SHIFA) and is under the control of Powerhouse Museum; consequently development of this site requires agreement from both parties. The Powerhouse Museum currently coordinates and runs educational programs with a sustainability focus. The site is in a key location, being central to the CBD and located alongside a major proposed pedestrian link from Darling Harbour to UTS and Central Station. This location presents a rare opportunity to bring the farm into the heart of the city.
REGIONAL CONTEXT
There are a number of programs throughout the Sydney region which aim to educate the community of sustainable living and food production manifesting as both sustainability education centres and city farms. Consequently such programs show a similar incentive as the proposed Sydney city farm project, some examples of such projects include:

- **Reduce Your Footprint;** the eastern suburbs had recently developed a suite of projects and activities designed to reduce the ecological footprint of the region. The initiative is a collaborative development between Randwick, Waverly and Woollahra Councils.
- **Sustainability Education Centre at Grantham Heritage Park, Blacktown;** a recently opened centre operating as an demonstration and advisory centre, running sustainable living workshops.
- **Calmley Hill City Farm;** operated independently on the former Fairfield City Farm, this farm holds a variety of shows and exhibits and runs a number of school education programs.
- **City Farm at Callan Park;** concurrent to this study, the Master plan for Callan Park was released for review to the community. The master plan proposal includes a orchard, city farm and expansion of the existing Glovers Garden community garden.

CITY OF SYDNEY CONTEXT
The City of Sydney strongly supports organisations which seek to reconnect agriculture and food in an urban environment. As evidenced by the fifteen community gardens and the four Farmers’ Markets which operate regularly throughout the LGA.

**Community Gardens**
Community gardens within the City of Sydney are run and managed by the community with some support from Council. The City of Sydney realises that community gardening is a valuable recreational activity that indirectly and directly improves the health and well being of its residents. Council appreciates that community gardening offers wide ranging social, cultural, environmental and potentially economic benefits. Recognising that city farms are not equivalent to community gardens and involve significantly more support both financially and in volunteer labour, it is important to link the enthusiasm for community gardens to the potential for a city farm.

**Farmers’ Markets**
Farmers’ markets have become a popular method of sourcing quality fresh produce and engaging local urban communities directly with regional producers. Bridging rural and urban communities and providing transparency within the food system for urban consumers. The potential link to a city farm could provide a critical outlet for connecting urban consumers with an opportunity to purchase socially just and environmentally sustainable produce; furthermore it would provide an outlet to sell city farm produce and a social event for community gathering.

Figure 10 demonstrates the locations of gardens and markets within the LGA. Sydney Park, The Crescent Lands and The Hill / Harold Park are currently well serviced by existing community gardens. However, the Powerhouse Museum is not positioned in close proximity to any community gardens. The Powerhouse Carpark site, or a farm resource located in the city has the potential to balance this shortfall.
Figure 10, Regional Context, Community Gardens and Farmers Markets and 1km distances
Figure 11: The Crescent Lands Site Analysis
SITE CONTEXT REVIEWS
The following pages provide a detailed review of each of the selected sites.

The Crescent Lands Review

Surrounding Land Uses
The Crescent lands are surrounded by a variety of land uses including:
• Open Space: Federal Park and the adjoining Glebe foreshore,
• Light industrial,
• Commercial,
• Community Use;
• Residential; and
• Educational institutions: The site is within walking distance of St Scholastica’s, Hilder Booler Kindergarten and Annandale Campus (Petersham TAFE).

Existing Infrastructure
• Adjoining compatible community facilities includes the Roselle Bay Community Nursery and the Pyrmont Mens Shed, located in Rozelle.
• Potential for adaptive reuse of the existing warehouse space for workshops, offices and farmers markets.

Land Size and Compatibility
• The Crescent Lands has a site area of 1.3 Ha / 3.2 acres.
• Potential to expand within the surrounding areas of the park to link with part of the Harold Park site.

Land Availability
• The site is owned by Council, however as the site is currently tenanted the development potential for the site is in the medium to long term range of approximately 5-10 years.

Accessibility
• The site is accessible by public transport, within immediate walking distance from the Jubilee light rail station and bus route on Crescent Road providing public transport service to local and regional areas.
• Access to an off road cycle path through Bicentennial Park and connecting with an on road cycle path on Nelson Street.
• Proximity to regional roads including the Western Distributor and the Great Western Highway, Victoria Road and Cross City Tunnel.

Visual Exposure
• Vistas through the railway arches from Federal Park and views from the road and residential area to the west of the site.

Physical Characteristics
• Relatively flat in terms of topography.
• Good solar access
• Fill which is potentially contaminated from past industrial land use
Figure 12: The Hill and Harold Park Site Analysis
The Hill and Harold Park Review

Surrounding Land Uses
The Hill and Harold Park is surrounded by a variety of land uses including:
- Open space;
- Light Industrial;
- Residential;
- Commercial;
- Community Use;
- Residential; and
- Educational institutions: The site is within walking distance of St Scholastica’s, Hilder Booler Kindergarten and Annandale TAFE (Petersham Campus).

Existing Infrastructure
- Adjoining compatible community facilities includes the Roselle Bay Community Nursery and the Pyrmont Mens Shed, located in Rozelle.
- Potential to utilise 500m² of the neighbouring tram sheds (subject to agreement and development of Harold Park)

Land Size and Compatibility
- The Hill and Harold Park site has 1.48 Ha or 3.6 acres of site area
- This site has the potential to expand and incorporate some of the Crescent Land site

Land Availability
- The site is currently under private ownership and consequently has a medium to long term development potential being within 10-15 years

Accessibility
- The sites are accessible by public transport, within immediate walking distance from the Jubilee light rail station and bus route on Crescent Road providing public transport service to local and regional areas.
- Access to an off road cycle path through Bicentennial Park and connecting with an on road cycle path on Nelson Street.
- Proximity to regional roads including the Western Distributor and the Great Western Highway, Victoria Road and Cross City Tunnel.
- Proximity to local roads including, The Crescent Road, Minogue Crescent, Wigram Road and Maxwell Road.

Visual Exposure
- Vistas under the rail overpass from Federal Park along Glebe foreshore.
- Passing views from The Crescent.

Physical Characteristics
- Relatively flat in terms of topography.
- Good solar access.
- As The Hill site has not been capped or remediated it is expected that the contaminated soil extends to the soil surface.
Figure 13: Powerhouse Museum Carpark Site Analysis
Powerhouse Carpark Review

Surrounding Land Uses

Powerhouse Carpark is surrounded by a variety of land uses including:

- Retail;
- Commercial;
- Educational;
- Community Use;
- Residential; and
- Infrastructure.

Existing Infrastructure

- Adjoining compatible community facilities include the Ultimo Community Centre.
- Potential to collaborate with existing cafe.
- Potential to utilise the existing play facilities associated with the Powerhouse Museum.
- Potential in setting up a collaboration with the Powerhouse Museum to utilise existing resources and staffing with the Powerhouse Museum.
- Potential to expand on existing educational programs from the Powerhouse Museum.

Land Size and Compatibility

- The Powerhouse Carpark has 0.5 Ha or 1.2 acres of site area.
- This site may have an opportunity to use some of the carpark area adjoining Mary Ann Street.

Land Availability

- This site is jointly owned by Powerhouse Museum and SHIFA. As the owners are cooperative, it is expected that the site is available for development within the short term being 3-5 years.

Accessibility

- Accessible by local and regional public transport links, within immediate walking distance from the Jubilee light rail, monorail and bus route on Crescent Road.
- Accessible to district and regional public transport being within a 5 minutes walking distance to Central Station.
- Proximity to roads including, Darling Drive and Harris Street.

Visual Exposure

- Views from surrounding high rise buildings.
- Views from pedestrian overpass.

Physical Characteristics

- Flat topography throughout the site with a steep embankment along Darling Drive, outside of site boundary.
- Good solar access.
- Fill which is potentially contaminated from past industrial land use.
Figure 14: Sydney Park Site Analysis
Sydney Park Review

Surrounding Land Uses
Sydney Park is surrounded by a variety of land uses including:
- Open Space;
- Retail,
- Residential; and
- Commercial.

Existing Infrastructure
- Potential to adapt and re-use some of the brick kilns and forecourt for events, farmers markets, educational programs and other operational facilities.
- Potential to utilise the existing adjoining cafe, playground facilities and depot.

Land Size and Compatibility
- The Sydney Park site has 1 Ha or 2.4 acres of site area.
- This site has opportunity to expand to other areas within the Sydney Park site.

Land Availability
- The site is Council Owned and available for development within a short to medium time frame of approximately 3-5 years.

Accessibility
- Accessible to district and regional public transport being within a 5 minutes walking distance to St Peters Station.
- Accessible to local and district public transport routes being located adjoining bus routes along Sydney Park Road.
- Passing bike track and neighbouring bike facilities.
- Regional and district private transport connections from the adjoining roads of Sydney Park Road and the Princes Highway.

Visual Exposure
- Views from intersection of Sydney Park Road and Princes Highway.
- Views along Sydney Park Road into the site are limited due to mounding and planting.
- Views along Princes highway into the site is limited by brick kilns.

Physical Characteristics
- Topography varies from flat to steep with an embankment along the eastern side of the site.
- Access to treated storm water running through Sydney Park.
- Fill which is potentially contaminated from past industrial land use.
2.2 SITE SUITABILITY

To assess suitability of each site, the opportunities and constraints for the sites were assessed against the project objectives (see section 1.4 Objectives for a Sydney City Farm). The following section details the key considerations as to the various sites’ suitability:

ENVIRONMENTAL

Site Capacity
As discussed in section 1.3 Operational Attributes, the minimum land area required to accommodate the elements of a city farm is approximately 1.3 acres / 0.5 hectares. Figure 15 illustrates how each site can accommodate the facilities of a city farm. Sydney Park, the Crescent Land and The Hill / Harold Park meet this requirement, the Powerhouse Carpark however falls short at 0.3 hectares. As the Sydney Park, Crescent Lands and The Hill / Harold Park sites offer larger land area, they provide more produce space and also have the potential to accommodate orchards and larger animals.

In assessing the land size of the selected sites, it is apparent that there are some opportunities in utilising existing off-site adjoining infrastructure and service without requiring on-site space requirements. The Powerhouse Carpark is a good example of this as the adjoining Powerhouse Museum with cafe, staff rooms, offices, workshop space and childrens’ play space facilities could be utilised by a city farm.

The use of these adjoining facilities allows for the site area to be used primarily as a demonstration and produce space. Assuming that use of such off-site infrastructure could be secured to carry out the project objectives, the Powerhouse Carpark could be considered a suitable site, with ample space to accommodate a city farm.

Water Availability
The ability to meet the water demand of a city farm with locally captured water is an essential consideration for the environmental sustainability of the city farm. Opportunities for water harvesting vary greatly from site to site. The Hill / Harold Park and Crescent Lands sites provide limited opportunity for water harvesting with the on-site capture (from the tram shed roof) not expected to account for the entire on site water requirements. An alternative opportunity might be to utilise the storm water channel which runs between The Hill / Harold Park and Crescent Lands sites. As this storm water is within a tidal zone a diversion would need to take place further upstream. The cost of such a system is expensive (approximately $200,000 depending on irrigation requirements).

The Sydney Park site has the capacity to access water from the existing stormwater treatment system within the park at minimal cost which could meet the entire water requirements for a city farm.

The Powerhouse Carpark site has the potential for rainwater harvesting off the roof of the adjoining storage buildings and museum itself. It is anticipated that this system would have the capacity to supply most of the water requirements for a city farm in this location.
### Functional Elements

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*Figure 15: Operational elements of a City Farm, applied to Study Sites*
**Soil Management**

The previous long standing industrial land uses of the selected sites suggests there is likely to be soil contamination in most instances. Contamination of soils used for food production can result in the uptake and storage of heavy metals in plant tissues which if consumed pose serious threats to health. Contaminated soils can be remediated or alternatively the use of raised garden beds with new top soil and impenetrable root barriers could be used. As soil testing is outside of the scope of this study, it is not possible to determine the extent of contamination or remediation required. Consequently, soil contamination has not been a determining factor in site selection for this study. The issue of soil contamination therefore will require consideration once the preferred site option is adopted by Council.

**Land Compatibility**

There are no perceived conflicts between adjoining land uses and any of the sites however there are some particular opportunities for some of the sites in their location. The Crescent Lands, The Hill / Harold Park and Sydney Park have a variety of adjoining land uses, including open space, residential, commercial and light industrial.

From this existing precedent of mixed use, it can be expected that a city farm could be well integrated within the localities. Additionally there is opportunity for a city farm to compliment and support existing community facilities. For example the Glebe area has a community nursery and Mens Shed nearby while Sydney Park has the Newtown ‘Watershed’ and Enmore TAFE in the locality.

The Powerhouse Carpark site is well located amongst various educational and community institutions such as UTS and TAFE with the potential to provide educational partnerships. Additionally this site has adjoining residential, commercial and retail uses. The site’s association with the Powerhouse Museum presents a unique opportunity to utilise the Powerhouse Museum’s established programs and innovative approach to demonstration projects for a city farm.

**SOCIAL**

**Visitor and User Potential**

Figure 16 illustrates the population density in the City of Sydney LGA, with Woolomoloo, Haymarket, Ultimo, Pyrmont and inner city suburbs such as Surry Hills being of the highest density. This map indicates that the Powerhouse Carpark in Ultimo is well placed to service the greatest density of population. The Crescent and The Hill / Harold Park sites are surrounded by a moderately high population in Glebe and the adjoining suburbs. The Sydney Park site, although located adjoining the existing industrial and commercial centre of Alexandria, has large growth potential, as a developing residential community through the rezoning of industrial and commercial use.

The visitor and user potential for the city farm is also largely indicated by local demographics. Figures 17 and 18 illustrate two important aspects of the demographics of the LGA: the ethnicity of the area and dominant housing type. From background research, community gardens around Australia include participation and support from many different ethnic groups. The advantages of having a diverse volunteer base is the
Figure 16, Population density, Source City of Sydney Council
opportunity to share horticultural knowledge and skills. Some cultures, in particular those from Asian backgrounds, are more familiar with the concept of community gardens and city farms. It is thought that this community may be able to provide a solid support base for the establishment of a city farm. As illustrated in Figure 16, there is a high density of people born overseas surrounding the Powerhouse Carpark site.

People living in high density areas typically have limited access to private open space and consequently have a greater requirement for public open space. For this reason a city farm located in an area with a higher density development can potentially attract greater support from residents who are interested in growing their own produce but do not have access to private gardens for that purpose. As illustrated in Figure 18, there is a greater proportion of apartment dwellers surrounding the Powerhouse Carpark and Sydney Park site(s) than surrounds the other 3 sites.
While these demographics are particular to aspects of the population, the visitor and user potential indicates that the Powerhouse Carpark site is well located within the LGA to attract a good support and volunteer base for a city farm.

**Accessibility and Exposure**

A city farm in Sydney would provide a valuable community and educational resource for the LGA and surrounding localities. It is therefore vital that the site is accessible to all visitors and users.

As illustrated in Figures 10 to 14, the study sites are accessible by various means of public and private transport as well as cycle routes. However, as the Powerhouse Carpark and Sydney Park have the advantage of a regional connection, being within immediate access to heavy rail stations (within a 5 minute walking distance), these sites are more accessible to visitors travelling from outside the local area.

The visibility and passive surveillance of the site is vital in ensuring that the City Farm is presented as a public amenity and safe for users and visitors to the farm. Site exposure and passive surveillance vary between sites. The Sydney Park and Crescent Land sites have good exposure from the adjoining road corridors as well as being well connected within an open space network.

The Hill / Harold Park site currently has limited exposure and development is dependent on future development of the Harold Park raceway for increased exposure and access. The Powerhouse Carpark site, although not visible from passing traffic, does have exposure from the pedestrian overpass and visitors to the Powerhouse Museum. This site also has future potential in the development of a pedestrian access way linking Central Railway Station to Darling Harbour, providing a potential for significantly increased site exposure.

**ECONOMIC**

From this study it is apparent that the economic viability of the site is partly dependent on existing infrastructure, the capacity of the site in terms of size, visitor potential, site exposure and ownership. Sydney Park has the potential for reasonably high visitation rates due to its location and accessibility. This site also has adequate space to accommodate a range of enterprises such as farmers markets, workshop and event spaces.

The Crescent Lands and the Hill / Harold Park has the capacity to accommodate enterprises, however these sites are not as accessible as Sydney Park or the Powerhouse Carpark. Additionally The Hill / Harold Park site has limited exposure potential and consequently is not expected to attract a diversity of enterprises. The Powerhouse Carpark, in association with the Powerhouse Museum, has excellent potential for visitation and potential to attract funding. This site however has some limitations in terms of providing the physical space for a diversity of enterprises.
CULTURAL / GOVERNANCE

Education
The importance of providing a city farm as an educational resource has been evidenced throughout the background study and stakeholder feedback. The ability of the site to provide an educational resource is dependent on the site’s potential to attract visitation, particularly from educational institutions and community groups. This potential is dependent on the site’s accessibility to such groups as well as the capacity of the farms management structure to organise and facilitate educational programs.

All of the sites have the capacity to be developed for educational purposes, with the Powerhouse Carpark site having a unique opportunity to extend existing visitation from school groups and established educational programs. Additionally this site is well located within walking distance from tertiary educational institutions such as UTS and Ultimo TAFE.

Land Availability
The site’s security of tenure and opportunity for development, within a reasonable time frame, is a vital consideration in determining the feasibility of the city farm project. While there are many complexities to be considered in assessing the availability of the sites, there are some site specific issues to be considered.

The Hill / Harold Park site is privately owned and would be subject to rezoning and land dedication approvals. Additionally this site’s potential is only realised once and if the existing race track is redeveloped. The Crescent Lands, while owned by Council is currently tenanted and occupied. Similarly this site would only reach its full potential pending the development of the Harold Park racetrack. While the Powerhouse Carpark is owned by the Powerhouse Museum and SHFA, these parties have been supportive of a suggested development of a city farm and are open to negotiation with Council. The Sydney Park site is owned by Council and available for development. In order to develop this site for a city farm the Plan of Management for Sydney Park would need to be revised, a process which could be completed within a 3-5 year time frame.

CONCLUSION
Sydney Park and the Powerhouse Museum carpark sites rate well across the Quadruple Bottom Line criteria. As the Crescent Lands and The Hill / Harold Park are not available for development within a short or medium time frame or as capable of attracting a high visitor potential these sites did not rate as well.

The outcomes from the stakeholder group clearly indicate that the Sydney Park site was most favoured. With the order of site preferences from most to least preferred being, Sydney Park, the Crescent Lands, The Hill / Harold Park and the Powerhouse Carpark. The stakeholder group was also asked to provide a weighting to each of the criteria. From this it is determined that environment, education and community facilities were the most important criteria. Animals and site history and former land use were given a low priority.
Preferred model and recommended sites

Source: City of Sydney

OCTOBER 2010
2.3 PREFERRED MODEL & RECOMMENDED SITES

From the site analyses and suitability as well as stakeholder inputs recommendations have been made for the development of a City Farm in the City of Sydney. We recommend the articulated model with the Powerhouse Carpark and Sydney Park sites to be developed as a preferred model. An alternative option is presented for an integral model, on the Sydney park site. These two options include:

1. **Articulated Model, Sydney Park and Powerhouse Carpark.** It is apparent that the Powerhouse Carpark site presents some unique opportunities in existing established educational programs. While this site is restricted in size, the application of an articulated model on the Sydney Park site provides a good symbiotic relationship for a city farm.

2. **Integral Model, Sydney Park.** Sydney Park has the space provisions, site location, land availability and water resources which provide the opportunity to develop a main nucleus site for the city farm.

Details of these options are included on the following pages.
Figure 19: Articulated Model, Sydney Park / Powerhouse Museum Collaboration

1. Potential Garden Demonstration Space with Associated Garden Infrastructure and Market Space
2. Potential Community Garden
3. Water Harvesting (off roof at Powerhouse or from Stormwater at Sydney Park)
4. Potential Orchard Along Embankment
5. Powerhouse Museum Opportunity for Collaboration with Existing Educational Facilities
6. Potential Farm Entrance
7. Existing Cafe and Toilets
8. On-Street Parking
SYDNEY PARK / POWERHOUSE MUSEUM COLLABORATION - ARTICULATED MODEL

This model utilises Sydney Park as the core production site with the establishment of the Powerhouse Carpark as an educational hub, thereby taking advantage of the Powerhouse Museum’s established educational programs. There is an opportunity within the Articulated Model to create a synergy through harnessing the strengths of each site. Allowing for additional sites to be incorporated over a longer time period. The location of facilities on the Sydney Park site will need to be well integrated into the park to ensure the movement patterns and functionality of the park is not compromised by the city farm.

This model allows for a higher level of exposure by utilising the two sites. The addition of the Powerhouse Carpark site increases exposure of the city farm from the Powerhouse Museums existing visitation of both locals and tourists. The shared facilities between sites adds value to the range of programs and infrastructure. When the Powerhouse Carpark and Sydney Park sites were considered as a combined site under a articulated model this option had 71% of the groups full support. The adjoining diagram, Figure 20, illustrates how a city farm in the Articulated Model could function.

Governance

At this stage of inquiry there is a willingness between the two interested offices (of Council and the Powerhouse Museum) for the development of an Articulated Model. The exact arrangements for management for the project would require further and more detailed development to be refined in the development of a Business Plan.

It is expected that the governance model would initially be based on a partnering agreement as a variation to the Government owned, managed and funded structure discussed in section 1.3 Management and Governance Structures and Figure 7. After an establishment period, it is intended that the farm will develop as a self managed model. The governance structure of the farm will consequently evolve into a structure similar to a not-for-profit organisation within the medium to long term, as illustrated in Figure 7. Support from community groups and volunteers will be key to this process particularly in achieving financial independence.

During the initial project implementation stage the preference will be for establishing a Memorandum Of Understanding (MoU) between the authorities to establish firm obligations and benefits. There is also a possibility of establishing an advisory board as the overarching management to guide and develop facilities and programs associated with the City Farm. The day to day management of the City Farm will be handled by staff and volunteers, drawing on existing resources of partnering organisations.

Economic Strategies

There are various opportunities for funding and revenue raising from the Articulated Model. This model has the advantage of existing visitation from the Powerhouse Museum and experience in grant applications and marketing and media promotion within both the Powerhouse Museum and Council.
A fundamental part of developing the City Farm organisation will be the establishment of a brand. A city farm brand will require the development of a name and a logo / design to identify the organisation and affiliated goods and services. This process will be important in promoting the City Farm as one organisation with two complementary sites at the Powerhouse Carpark and Sydney Park. Ideally, visitors to one should be encouraged to visit the other in order to participate in all of the experiences that the City Farm has to offer.

The development of a city farm brand is also an important marketing tool in presenting a coordinated business case to investors, sponsors and in funding applications. Similarly the City Farm brand assists in promoting goods and services which may be developed by the organisation; such as educational programs, events and workshops and produce supplied to cafes, restaurants and farmers markets.

Some sources of income which may be sought to support the City Farm and its operational costs include:

**Enterprises**
- Cafe
- Farmers’ Markets
- Events and fundraising

**Fees**
- Visitor admission
- School Groups
- Educational Tours
- Community Garden Fees

**Funding**
There are many funding programs which a city farm is able to utilise. The following government and private grants are currently available for a project of this nature. Many of the grants on this list have been sourced from the Sydney City Farm group and their Business Plan for a City Farm in Callan Park. A full list of the grants detailed in this document have been referenced in Appendix 5. Some existing programs and schemes which may be sourced include:

**State Government Grants**
- Capital Assistance Program
- Co-operatives Development Grants Program: NSW Government Fair Trading
- Home Building Grants Program: NSW Government Department of Fair Trading
- Environmental Research: NSW Department of Environment and Climate Change and Water
- Environmental Restoration and Rehabilitation: NSW Department of Environment, Climate Change and Water
- Lead Environmental Community Groups Grants: NSW Department of Environment, Climate Change and Water.
- Public Facilities Program: NSW Department of Environment Climate Change and Water
• Urban Sustainability Program: NSW Department of Environment, Climate Change and Water

Federal Government Grants
• Community Grants: Department of Families, Housing, Community Services and Indigenous Affairs (FaHCSIA): Works to manage a diverse range of programs and services to support and improve the lives of Australians
• Community Investment Program: Department of Families, Housing, Community Services and Indigenous Affairs (FaHCSIA)
• Diverse Australia Program (community relations funding), Department of Immigration and Citizenship
• Raising National Water Standards: Program, Australian Government, National Water Commission

Private Organisations’ Grants
• Australian Open Garden Scheme, provides annual grants for community gardening projects, www.opengarden.org.au
• National Heritage Investment Initiative. This grant program provides assistance to restore and conserve Australia’s most important historic heritage places. This grant may assist in the stabilisation and adaptation of the Sydney Park Brick Kilns.
• Water Smart Australia Program: Australian Government, National Water Commission
• Coles Group Community Grants Program
• Community Development and Support Expenditure Scheme: Clubs NSW
• Ian Potter Foundation
• Norman Wettenhall Foundation Environmental Grants
• Perpetual Foundation
• The Myer Foundation Grants
• Danks Trust and Annie Danks Trust Links to Learning Community Grants Program
• Mitre 10 Junior Landcare Grants Program
• Eco Schools International Macquarie Bank Foundations

Direct Sponsorship
Sponsorship may be sought from commercial enterprises which promote sustainability and have goals which align with the City Farm. Examples of companies which may be able to offer sponsorship or donate products include:
• Water storage or treatment companies
• Solar power suppliers
• Hardware stores
• Plant nurseries

Partnerships
Opportunities exist to establish partnerships with organisations who manufacture or distribute sustainable technologies or products. Products and services could be used on a City Farm which demonstrate their use and showcase products. Partnerships may be sought with the following type of organisations:
• Conservation groups such as Australian Conservation Foundation and Landcare
• Universities and Schools
• Sydney Water
Figure 20: Integral Model, Sydney Park Site

1. Potential Animal Enclosure
2. Potential Reuse of Kues
3. Potential Orchard Along Embankment
4. Potential Market Space
5. Potential Demonstration Gardens
6. Potential Composting and Nursery Services
7. Potential Community Garden
8. Water Supplied from Existing Wetland System
9. Existing Play Space with Care
10. Existing Parking
SYDNEY PARK SITE - INTEGRAL MODEL
This model utilises Sydney Park as an independent facility which operates from a single site integrated into a larger open space setting. The potential layout of the farm is illustrated in Figure 19. This figure shows how the facilities of a city farm are accommodated within the site area. The actual arrangement of the facilities would more practically be spread throughout the park site to ensure that the farm is well integrated with other recreational uses of the park. As Sydney Park is an existing area of open space the layout of farm facilities should not impinge on the existing access options into the site.

One of the greatest advantages of using area within Sydney Park is the availability of recycled water. The historic brick kilns provide a landmark backdrop, these buildings also present an opportunity to positively adapt the structure for use in the city farm as farmers markets, workshop space or storage.

As Sydney Park is owned and managed by Council, development for a city farm has a short to medium term potential for commencement. This farm model was reasonably well supported by the stakeholder group with 56% of the group fully supporting the model.
3.1 IMPLEMENTATION STRATEGY

IMPLEMENTATION PRINCIPLES
Following a decision to proceed with the development of the City Farm, it is recommended that Council adopt a detailed implementation strategy, which reflects two major development principles;

1. The articulated model is initiated and pursued as a venture of Council and the Powerhouse Museum as responsible partners, driving the establishment and gradually expanding management and creative involvement to other stakeholders as the success of the farm builds and viability is ensured.

2. The economic independence of City Farm is acknowledged as a medium to long term objective which is underpinned through initial adequate annual funding and resourcing support in kind, provided for at least the first five years. An evolutionary strategy in a business, physical and programmatic sense will allow the concept to adapt grow and prosper and properly reflect community expectations to optimum effect.

DELIVERING THE CITY FARM: NEXT MOVES
The process of implementation will therefore require a well managed strategy comprising decisions and actions in distinct areas by many parties - but not necessarily in a prescribed sequence. The following key phases or areas of planning are suggested as an outline strategy for the farms implementation.

Concept Adoption and Partnering Agreement
- Feasibility Report to Council November 2010
- Council review, comment and endorsement of concept to proceed in 2011
- Business case and budget approved by Council in 2011/2012
- Establishment of a Council steering committee 2011
- Public exhibition of Feasibility Report
- Community feedback
- Establish a formal dialogue with the Powerhouse Museum and agree terms for development of City Farm articulated model
- Liaise with landholders to draft a contract, set up a constitution or MoU

Governance Structure and Framework
- Appointment of Project Coordinator/Manager
- Prepare a detailed Business Plan
- Seek funding and grant applications
- Form a management group or coordinating committee i.e. Council working group or Board of Management including community stakeholders
- Proceed to get an ABN
- Take out necessary insurances
- Identification of partnering opportunities
- Establishment of working relationship between existing resources
- Involvement of community and volunteers

Master Planning, Design and Documentation
- Ensure facilitation of land availability through a review of the Sydney Park Plan of Management and agreement through SHFA and Powerhouse Museum for the Powerhouse Carpark site
• Prepare site conditions and background studies i.e. Soil Testing
• Prepare a Master Plan for both the Sydney Park and Powerhouse Carpark sites
• Council endorsement of master planning and cost planning
• Community Consultation, presentation of master plan, plan of management and business plan
• Acquire relevant planning approvals for DA and CC
• Public exhibition and consultation according to requirements
• Construction Period, including site remediation

Farm Program Development
• Engage employees such as education manager and farm manager
• Prepare Education Programs
• Prepare Exhibition Program
• Engage the community and volunteers

Branding and Promotion Program
• Development of Marketing Plan
• Development of City Farm branding
• Develop media relations
• Research and liaison with sponsors

INDICATIVE COSTING
The following table provides some indicative operating costs for the phased implementation strategy over a five year period. This costing does not include any capital costs for the setup of the city farm nor does it account for inflation or any income stream which may be gained within the first five years. A better understanding of capital costs and income should be provided in the preparation of a detailed business plan which is accounted for in the first year of the project.

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PLANNING REGULATIONS
All of the sites are subject to extensive planning legislation, controls and policies at State, Regional and Local Government levels. A complete review of current planning legislation is outside of the scope of this study however, this section reviews controls of particular relevance to this study.

As the City of Sydney is preparing an amended Local Environmental plan (LEP), known as City Plan, any rezoning requirements and development of the sites will need to consider this plan. This plan is likely to be gazetted by June 2011, consequently any Development Application for a city farm project is likely to require consideration of this plan. The following is a brief overview of the most relevant current planning legislation:

State and Regional Planning
- Environmental Planning and Assessment Act 1979
- Exhibited Animals Protection Act 1986: In the event that animals will be kept on site
- Contaminated Land Management Act 1997 No140: In the event that the site has contaminated soil
- Contaminated Land Management Regulation 2008: In the event that the site has contaminated soil
- Soil Conservation Act 1939 No10: In the event that the site has contaminated soil
- Associations Incorporation Act 2009: In the event that the governance structure of the project develops as a Not for Profit Organisation
- Sydney Harbour Foreshore Authority ACT, 1998: Relevant to the Powerhouse Carpark site.

Local Planning - Sydney Park Site
The City of Sydney Council as the consent authority for development.
- South Sydney Local Environmental Plan 1998: the site is zoned 6 A Recreation
- South Sydney Development Control Plan 1997: Urban Design
- South Sydney (Heritage Conservation) Development Control Plan 1998: with specific controls for Conservation Areas
- City of Sydney Contaminated Land Development Control Plan 2004
Local Planning - Powerhouse Carpark

The City of Sydney Council is the consent authority for development for this site. However, as the site is located in the Ultimo Pyrmont area development of the site may fall under the authority of the Minister for Planning if the development were to include subdivision or has a capital investment value of more than $5 million dollars. Planning controls which are relevant to the site include:

- **Sydney Local Environment Plan (LEP) 2005**: Under this provision the site is currently zoned as Residential-Business.
- **City of Sydney Contaminated Land Development Control Plan 2004**
- **City of Sydney Access Development Control Plan 2004**
- **City of Sydney Heritage DCP**

Other Considerations

Other standards and certifications which may be required includes:

- Organic certification; to produce and sell organic produce the city farm will need to be audited and inspected. This process is regulated by the Organic and Bio-dynamic Program of the Australian Quarantine and Inspection Service.
- Standards for Exhibiting Animals at Mobile Establishments in New South Wales: requires consideration in keeping animals on a City Farm
- Standards for Exhibiting Animals in New South Wales: requires consideration in keeping animals on a City Farm
LIABILITY AND RISKS

It is essential to understand what potential liabilities and risks may arise through the development and implementation of the project in order to avert any major hurdles. Some key liabilities and risks which were identified throughout the study process and in consultation with stakeholders include:

Environmental
• Potential vandalism, particularly on the Sydney Park site.
• Potential soil remediation required.

Social
• Users of Sydney Park may feel disenfranchised by the development of a City Farm within the park.
• Maintaining credibility in the community.
• Maintaining the interest of volunteers.

Economic
• Reliance on Government grants for financial support.
• Reliance on Council to support the project throughout project initiation and development.

Cultural / Governance
• Complexities in establishing a partnership agreement between the Powerhouse Museum and Council.
• The functional success of the park is largely reliant on a good/strong design process for the farm.
• Public Liability implications such as Occupational Health and Safety, food contamination and on site accidents.
• The success of the City Farm as one coordinated organisation is reliant on the marketing, branding and promotion of the two sites functioning as one farm.
• The success of the City Farm is reliant on a well managed operation, particularly in the sharing of resources and infrastructure between two sites.
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