

**PALM BEACH COUNTY
BOARD OF COUNTY COMMISSIONERS
WORKSHOP SUMMARY**

Meeting Date: March 28, 2023
Department: Facilities Development & Operations

I. EXECUTIVE BRIEF

Title: Brookside Property overview

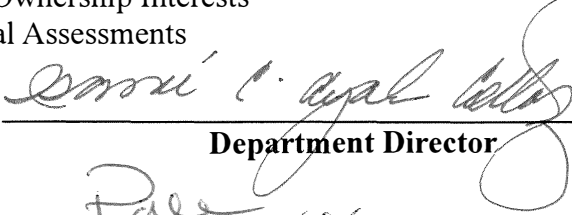
Summary: On November 15, 2022, the Board of County Commissioners (Board) directed Staff to provide a report on the history of the County’s acquisition of the Brookside property and the required actions to proceed with a text amendment to the County’s Comprehensive Plan (Comp Plan) to allow for development of the real estate holding, and the potential consequences of same. On December 6, 2022, County Staff requested Board direction regarding a potential text amendment to the County’s Comprehensive Plan to allow for the development of the Brookside Property in light of the restrictions that currently encumber the same. The Board directed County Staff to return at a later date, during a Board Workshop meeting, to further consider this item concurrently with an overview of the agricultural reserve and conservation easements. Pursuant to Board direction, this item provides an overview of the Brookside Property and responds to questions raised when the item was last presented to the Board on December 6, 2022. **(FDO Admin) Countywide (HJF)**

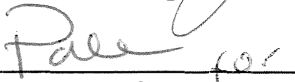
Background and Policy Issues: In March 1999, Palm Beach County voters approved the Agricultural Reserve bond referendum which provided \$150M towards the establishment of a land acquisition program to protect environmentally sensitive lands, greenways, land for water resources, agricultural lands and open space. In May 2003, the Board approved the acquisition (through The Conservation Fund) from Brookside Tree Farm Limited Partnership of approximately 78 acres under the Agricultural Reserve (Ag Reserve) land acquisition program at a cost of \$5,163,432 (R2003-0199). Of the total acreage, 3 acres were acquired for the Lyons Road right-of-way with the remaining acreage designated for the Ag Reserve program. At the time of acquisition, the property was being used as an in-ground nursery and it was County Staff’s intent to continue to lease it for nursery operations. However, as the Ag Reserve bond program progressed, a decision was made against leasing the property due to certain tax implications. Consistent with the 1999 bond referendum, the County issued two tax-exempt general obligation bonds (GO bonds) to fund the Ag Reserve acquisition program. The tax exempt status imposed limitations on the amount of revenue that could be derived from private parties and rent payments were considered Private Activity Revenue. Hence, the decision not to lease the property was made as proceeding otherwise would have resulted in exceeding private activity bond limitations by year 2012. Refunding of the bonds with taxable bonds (i.e. not subject to Private Activity Revenue limitations) was identified as a feasible alternative, and County Staff proceeded to draft a strategy towards implementation of a refunding plan. After several iterations with the participation of the County Land Acquisition Selection Committee (CLASC), bond counsel and County staff, among others, a refunding plan was agreed to by all parties which entailed entering into agreements that would cause the County to receive more revenue than allowed under the Private Activity Revenue limitations, after which the County would then have 90 days to issue taxable refunding bonds (as per United States Internal Revenue Service (IRS) regulations).

CONTINUED ON PAGE 3

Attachments:

1. Location Map
2. Summary of Ownership Interests
3. Environmental Assessments

Recommended By:  3/15/23
Department Director **Date**

Approved By:  3/21/23
County Administrator **Date**

II. FISCAL IMPACT ANALYSIS

A. Five Year Summary of Fiscal Impact:

Fiscal Years	2023	2024	2025	2026	2027
Capital Expenditures	_____	_____	_____	_____	_____
Operating Costs	_____	_____	_____	_____	_____
External Revenues	_____	_____	_____	_____	_____
In-Kind Match (County	_____	_____	_____	_____	_____
NET FISCAL IMPACT	=====	=====	=====	=====	=====
# ADDITIONAL FTE POSITIONS (Cumulative)	_____	_____	_____	_____	_____

Is Item Included in Current Budget: Yes x No _____
 Does this items include use of federal funds? Yes _____ No x

Budget Account No: Fund _____ Dept _____ Unit _____ Object _____

B. Recommended Sources of Funds/Summary of Fiscal Impact:

There is no fiscal impact associated with this item.

C. Departmental Fiscal Review: Robert Eric Muller

III. REVIEW COMMENTS

A. OFMB Fiscal and/or Contract Development Comments:

<p><u>Lisa Matus</u> 3/20/2023 OFMB 9A3117 ESW 3-17-23</p>	<p><u>Shirley Ann Jacobowitz</u> Contract Development and Control 3/20/23</p>
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B. Legal Sufficiency:

[Signature] 3/21/23
 Assistant County Attorney

C. Other Department Review:

 Department Director

Background and Policy Issues (Cont.): In May 2006, County Staff presented to the Board several agenda items all of which needed to be approved concurrently for the refunding program to be successfully implemented. One of said items was an agreement to sell the 75-acre Brookside property.

Pursuant to statutory requirements, the procedure to sell the Brookside property followed a competitive process. The property was advertised for purchase twice. The first request for proposals (RFP) was issued in November 2005 to sell the property to a qualified buyer for nursery or row crop production, and received only one proposal for \$1.05M which was deemed insufficient to accomplish the bond refund program. A second RFP was issued in April 2006 which incorporated into its proposal scoring framework the following three preferential uses as recommended by the CLASC: 1) nursery, 2) row crops and 3) equestrian. In order to generate interest in the property and receive proposals at prices which would exceed the revenue limitations, the RFP also established a minimum bid at the appraised value of \$3M and allowed any use permitted in the AGR zoning district, with the previously detailed preferences taken into consideration. Three (3) proposals were received, and on May 16, 2006 (agenda item 5E-4), County Staff requested Board direction on the selection of the most responsive one. The three proposals were fairly close in the financial offer (i.e. \$75,000 separating the highest and lowest offers), the main difference was the uses proposed. The Board selected the proposal submitted by Richard Bowman, Steven Wolf, Jeff Snow and Scott Niebel (collectively the Bowman Group).

Approval of the agreement to sell was based on two key considerations: 1) all development rights were to be removed, and 2) the property would be subject to a conservation easement limiting its use to agricultural uses. The appraisals on which the minimum bid were based took into consideration said restrictions. To recap, in 2003, the County acquired the property from Brookside Tree Farm Limited Partnership for approximately \$5.2M and sold it three years later to Brookside States, LLC and Smith Sundry Estates, LLC (entities controlled by the original owner of the Brookside property) for approximately \$3.2M. That is, at an approximately \$2M discount. The removal of development rights and the imposition of a conservation easement were deemed as guarantees to ensure attainment of the goals of the Ag Reserve land acquisition program.

During the December 6, 2022 Board meeting, questions were raised as to the ownership interests of the companies that sold to the County, and later acquired from the County, the Brookside Property. Attachment 2 to this workshop item provides a summary of the corresponding ownership interests as reflected on the Florida Department of State, Division of Corporations' website (i.e. SunBiz). At the same meeting, questions were raised as to the environmental conditions of the Property at the time of acquisition and its then adequateness for inclusion as part of the Ag Reserve. Prior to the acquisition of the Brookside Property, County Staff conducted a Phase I and Limited Phase II Environmental Site Assessments (ESAs). Attachment 3 to this agenda item includes copies of the relevant sections of each assessment. The Limited Phase II ESA concluded "based on the results of the Limited Phase II ESA, significant environmental impacts were not detected in soil, sediment, or groundwater collected at the areas identified as Area B-3-3 and Area-4, on Brookside Tree Farm. It is therefore URS' opinion that, with continued use of the property for agricultural purposes, no additional assessment is warranted at these two areas this time."

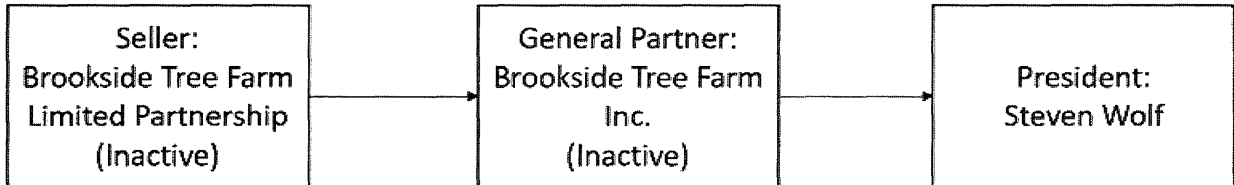
For development on the Brookside property to be feasible, the conservation easement, at a minimum, would need to be partially released, development rights would need to be assigned through a text amendment to the County's Comp Plan, and in County Staff's opinion, additional compensation should be required from the current owners as their ability to acquire at a discounted price (back in 2006) was the result of the restrictions imposed on the property (which the owners now seek to remove).

Attachment 1 Location Map

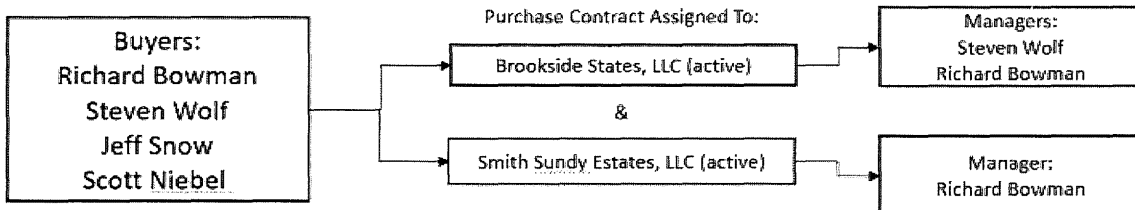


**Attachment 2
Summary of Ownership Interests**

Acquisition of Brookside by County (2003)



Disposition of Brookside by County (2006)



Narrative

Acquisition by the County

In 2003, the County acquired the Brookside Property from Brookside Tree Farm Limited Partnership. Per SunBiz, the corporation is inactive. In the last annual report it filed, the General Partner was listed as Brookside Tree Farm Inc.

Per SunBiz, Brookside Tree Farm Inc. is inactive. In the last annual report if filed, the President was listed as Steven Wolf.

Sale by the County

In 2006, the County sold the Brookside Property to Brookside States, LLC and Smith Sundry Estates, LLC. Per SunBiz, Brookside States, LLC is active. Its articles of incorporation listed Steven Wolf and Richard Bowman as managers of the corporation. Per SunBiz, Smith Sundry Estates, LLC is active. Its articles of incorporation listed Richard Bowman as manager of the corporation.

Attachment 3
Environmental Site Assessments (Phase I and Limited Phase II select pages)



**PHASE I
ENVIRONMENTAL SITE ASSESSMENT
Brookside Farms Property
288-Z Smith Sundry Road,
Delray Beach, Palm Beach County, Florida**

for

**PALM BEACH COUNTY
DEPARTMENT OF FACILITIES
DEVELOPMENT OPERATIONS
3323 BELVEDERE ROAD
BUILDING 503
WEST PALM BEACH, FLORIDA**

February 11, 2003

URS Project No. 49940-011-024



February 11, 2003

Ms. Melanie M. Borkowski, Manager
Palm Beach County
FD&Q Facilities Compliance Section
3323 Belvedere Road, Building 503
West Palm Beach, FL 33406

Re: **Phase I Environmental Site Assessment**
Brookside Farms Property
288-Z Smith Sundy Road,
Delray Beach, Palm Beach County, Florida
URS Job # 46740-011-024

Dear Ms. Borkowski:

Attached please find two copies of the URS Corporation's Phase I Environmental Site Assessment for the above referenced location for your comment and review. URS appreciates the opportunity to work with the Palm Beach County Facilities Development and Operations on this project. If you have any questions concerning this report or need additional information about this project please contact URS at your convenience.

Sincerely,

URS Corporation

Edward A. Leding, P.G.
Project Manager

William F. Marcus
Projects Director

URS Corporation
7800 Congress Avenue, Suite 200
Boca Raton, FL 33487
Tel: 561.994.6500
Fax: 561.994.6524

EXECUTIVE SUMMARY

URS conducted a Phase I Environmental Site Assessment at the approximately 80 acres Brookside Farms property located at 288-Z Smith Sundry Road, Delray Beach. At the time of the Phase I ESA, the Brookside Farms Property was densely overgrown and unmaintained. It is considered agricultural lands and was partially utilized as both an in-ground and containerized tree farm registered to Tropical Growers International as a landscaping and nursery wholesale. The Brookside Farms also operates under a Florida Department of Agriculture permit (nursery registration number 04718495). The subject property was historically utilized for row crops from at least 1968 and prior to 1973.

One onsite trailer located on the southwestern portion of the property. An open-air canopy with a concrete floor adjoins the eastern portion of the trailer. A small former pump house containing a water filtration unit was located south of the trailer and is reported to be active and servicing the trailer. An abandoned automotive flatbed hitch and two abandoned trailers, and a large concrete pad are located south and east of the pump house.

A barn and four current and historical shade houses were observed on the southeastern portion of the property. The barn storage areas were utilized as an office, equipment maintenance area, or to store vehicular repair parts/fluids and agricultural supplies. Based on the age of the onsite barn, there is a potential that asbestos containing materials may have been used in its construction. Adjoining the barn to the east is an abandoned shade house. The northern, western and eastern shadehouses contained both inground and aboveground plants. The shadehouse immediately north of the barn was utilized as a staging area.

Agrochemicals were stored throughout the eastern barn storage area. A list of agrochemicals which were current and historical utilized on the Brookside Farms property was reviewed. None of the listed agrochemicals were identified on the US EPA's List of Pesticides Banned and Severely Restricted in the USA.

An inactive irrigation pump station is located northeast of the former dump area. Solid wastes were observed scattered in the overgrown area east of the pump station. One electrical irrigation pump station is located on the northern portion of the property. Irrigation and temporary monitor wells were observed in the barn area and scattered throughout the subject property.

One lake is located on the northwestern portion of the property and is the easternmost of three former lakes, two of which have been filled with solid wastes. Two solid wastes stockpiles are located on the eastern half of the property and contain concrete, construction debris, soil and vegetative wastes. A former dump is located northeast of the onsite lake.

Based on the results of the Phase I ESA, URS has identified the following nine areas of concern. In January 2002 URS conducted a Phase II ESA of the property, which included an evaluation of seven of the nine areas of concern. Based on the results of the Phase I ESA and the historic Phase II ESA, the following is a summary of URS' conclusions and recommendations for the Brookside Farms property.

Area B-1 Barn/AST Area

Area B-1-1 – Barn Area

Historical samples collected from the barn area had identified elevated concentrations of arsenic in soils. URS recommends that a Limited Site Assessment should be conducted within this area followed by corrective actions. Groundwater monitoring activities may also be warranted within this area. Additionally, it is recommended that an asbestos survey be conducted to evaluate the building materials

for asbestos containing materials. The estimated costs for the Limited Site Assessment, corrective actions, and one year of monitoring is \$41,500, based on the excavation of an estimated 240 cubic yards of arsenic impacted soil. If additional years of sampling are required and additional \$10,000 per year will be needed.

Area B-1-2 – Aboveground Storage Tank Area

Soil samples collected from this area were below detectable concentrations for analyzed parameters. Based on the results of the Phase II ESA, it is URS' opinion that no further actions are warranted at the AST area.

Area B-2 Pump Stations

Area B-2-1 – Former Pump House

Soil results were not indicative of petroleum impacted soils, therefore, it is URS' opinion that no further actions are warranted at the former pump house.

Area B-2-2 – Irrigation Pump Station

Soil sample collected from this area did not exhibit detectable concentrations of petroleum constituents. Therefore, it is URS' opinion that no further actions are warranted at the irrigation pump station. However, prior to the purchase of the subject property, the pump station should be properly closed out at an estimated cost of \$7,500, including a \$5,000 contingency in the event that impacted soils are encountered.

Area B-3 Solid Waste

Area B-3-1 – Stockpiled Solid Waste

A solid waste stockpile was observed north of the barn which may contain solid wastes including concrete, construction debris, and tree limbs. The estimated costs to confirm and quantify the solid wastes is \$2,000.

Area B-3-2 – Former Dump Area

Minimal quantities of small debris were encountered scattered throughout test trenches excavated during Phase II ESA activities at the former dump area. It is URS' opinion that these solid wastes do not require removal prior to purchasing the subject property.

Area B-3-3 – Current and Former Lakes Area

Two historical lakes and one current lake are located on the subject property. Excavations conducted as part of Phase II ESA activities have identified buried solid wastes within the lakes area totaling approximately 500 cubic yards in the perimeter of existing lake, 12,750 cubic yards in the former central elongated lake, and 12,300 cubic yards in the former western lake. In the event that solid wastes are excavated and removed from the Brookside Farms property, the estimated costs for oversight, removal, disposal of the solid wastes and restoration of the site is \$3,130, 000. This amount is based on \$ 70 per ton unit cost and 20 % engineering oversight.

It should be noted that subject property is considered agricultural land and as such, exemptions may exist regarding allowable land use practices, including regulations concerning the dumping of solid wastes onsite. The FDEP, under the Florida Administrative Code Chapter 62-701 Solid Waste Management Facilities, regulates activities relating to both registered and unregistered dumpsites. URS therefore recommends that the FDEP be notified of the buried solid wastes.

Area B-4 Cultivated Areas

No sampling of the current and/or former cultivated areas has been reported to date. In order to evaluate

the potential presence of agrochemicals that were historically used onsite, URS recommends the collection of soil and groundwater samples from the cultivated areas of the property. The assessment should include evaluating arsenic and pesticides concentrations that may have been used historically on the property. The estimated costs for the supplemental site sampling and analysis is \$ 9,500.

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Appendix E	Palm Beach County Occupational Permit Information
Appendix F	Agrochemical List and UN PIC Banned and Severely Restricted Agrochemical List
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1.0 INTRODUCTION

This report presents the results of URS Corporation's (URS) Phase I Environmental Site Assessment (Phase I ESA) of the Brookside Farms Property, located at 288-Z Smith Sundry Road, Delray Beach (subject property). The subject property is located in western Delray Beach, east of Smith Sundry Road, in Palm Beach County, Florida. The subject property is located in Section 18, Township 46 South, Range 42 East in western Palm Beach County's agricultural area. A General Site Vicinity Map is included as **Figure 1**. A Site Location Map, taken from the March 1999 aerial photograph of the area, is presented as **Figure 2**. Photographs taken during site activities are included in **Appendix A**.

The purpose of this Phase I ESA was to identify Recognized Environmental Conditions (RECs) relating to hazardous substances and petroleum products on the subject property and/or adjoining properties as defined by the American Society for Testing and Materials. The Phase I ESA was performed in accordance with the Scope of Work specified in the contract agreement, and the American Society for Testing and Materials' Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process (E 1527 - 00).

URS has previously conducted a Phase II ESA on this property. In 2002, URS was contracted by the School District of Palm Beach County to evaluate soil and groundwater quality at the site and identify and quantify areas of buried solid waste. URS' report to the School District was entitled Phase II Environmental Property Assessment, dated January 8, 2002. URS has obtained permission from the School District to use the data and information from this report within the Phase I ESA.

1.1 Scope of Work

The activities performed to complete this assessment included a site reconnaissance and a review of current and past uses of the subject property. Current and past uses were established by reviewing available documents, reports, maps, photographs, and other sources of historic information. Regulatory agencies with jurisdiction over the subject property were contacted, or databases of these agencies were reviewed to identify RECs, compliance enforcement actions, or investigations into hazardous materials or wastes associated with the subject property.

A site reconnaissance was performed to assess the subject property for evidence of current and/or past environmental concerns. Potential adverse impacts from surrounding areas were assessed by observing adjacent properties. The site environment was also assessed through the review of readily available environmental information. To summarize the findings of the Phase I ESA, this report has been prepared.

The purpose of the Phase I ESA was to identify RECs associated with the subject property. Under ASTM E 1527-00, a REC is defined as:

“The presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater or surface water of the property. The term includes hazardous substances or petroleum products even under conditions in compliance with laws. The term is not intended to include *de minimis* conditions that generally do not present a material risk of harm to public health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies.”

1.2 Limitations

URS has performed the Scope of Work set forth in the proposal related to this project, in specific reliance on the understandings and agreement. The report and any other information which URS prepared and submitted to Palm Beach County Facilities Development and Operations (FD&O) in connection with this project (the "Report") are for the sole use and benefit of Palm Beach County FD&O, and may not be used or relied upon by any other person or entity without the prior written consent of Palm Beach County FD&O and URS, except as provided for specifically in the agreement.

2.0 SITE AND VICINITY CHARACTERISTICS

The environmental setting of the subject property was examined by reviewing available information such as maps and published data.

2.1 Physical Property Description

The Brookside Farms Property consists of an approximately 80 acre parcel located in Section 18, Township 46 South, Range 42 East, Delray Beach, Florida, in western Palm Beach County's agricultural area. The property is located north of Atlantic Avenue and east of Smith Sundry Road. A Site Location Map, taken from the March 1999 aerial photograph of the area, is presented as **Figure 2**.

The ground elevation of the subject property is approximately 20 feet above sea level as shown on Figure 1, which references the *University Park*, Florida (photorevised 1983) United States Geological Service quadrangle map. Based on visual observations of the onsite topography made during the site reconnaissance as well as a review of topographic maps, the general topography of the property is essentially flat.

2.2 Surface Water Characteristics

One onsite lake and four irrigation canals (one east-west canal on the southern portion of the property, one east-west canal on the northern portion of the property, one north-south canal which bisects the northern canal, and one north-south canal on the eastern property boundary) are located on the Brookside Farms property. The subject property is bordered to the north by a canal, which adjoins Happy Hollow Road. Review of the historical aerial photographs indicated that two additional lakes were present on the western portion of the property and one irrigation canal on the central eastern portion of the property. Stormwater at the site is expected to percolate directly into the soil, lake and irrigation canals. **Figure 3** is a site layout map, which shows the locations of the former lakes and current onsite canals.

2.3 Soil

According to the U.S. Department of Agriculture, Soil Conservation Service Soil Survey of Palm Beach County, soil deposits in the immediate site vicinity are classified as Myakka Series soils. Myakka Series soils consist of nearly level, poorly drained, sandy soils in broad, flatwood areas. They formed in a deep, sandy marine environment. Under natural conditions, the water table is within 10 to 40 inches for 6 months or more in most years and recedes to below 40 inches during extended dry periods. Permeability is expected to be rapid. The organic-matter content and natural fertility are low.

2.4 Groundwater

The formations previously described comprise the shallow Surficial Aquifer system beneath Palm Beach County, which serves as the primary water supply for commercial and domestic use within the region. The rocks that comprise the Surficial Aquifer of southern Florida overlie a thick sequence of relatively impermeable clayey materials of the upper members of the Hawthorn Group. These overlying sediments are approximately 650 feet thick beneath the subject property and form the confining zone between the Surficial Aquifer and the lower, artesian Floridan Aquifer.

The top of the Floridan Aquifer is composed of cavernous and highly permeable limestones of the Suwannee and Ocala Limestones and the Avon Park Formation. Beneath much of southern Florida, the Floridan aquifer contains water under artesian pressure; however, the water generally is corrosive and high is the dissolved mineral content. (Florida Geological Survey RI #20, 1959)

The regional groundwater flow of this aquifer is to the southeast. The Brookside Farms property is located approximately 1.75 miles southwest of the drawdown zone of the Palm Beach County System 3 wellfield. Local surface water bodies on the subject property, including the onsite lake and canals, might affect groundwater flow direction in the upper portion of the aquifer. Estimated ground water levels and flow direction may vary due to seasonal fluctuations in precipitation, local usage demands, geology, underground structures or dewatering operations.

3.0 SITE HISTORY/HISTORIC REVIEW

Inquiries and investigations were performed to assess the past usage of the subject property to evaluate the likelihood of environmental impairment or hazardous materials on site.

3.1 Site History and Current Usage

Review of available historical information, as well as information provided during site interviews and the site reconnaissance, indicated that the subject property was developed for utilization as agricultural farmland prior to 1968. Historical crops may have included vegetable row crops such as tomatoes or peppers, based on interviews with Mr. Glen Wilcox of Tropical Growers International (see Section 4.1). Aerial photographs indicated that between 1973 and 1981, equestrian activities were also conducted on the subject property.

Most recently, agricultural crops which were cultivated on the property included inground and aboveground ornamental trees and shrubs. Inground plants are primarily palms and woody ornamental vegetation. Aboveground containerized plants included foliage plants designed for interior spaces. Based on visual observations, approximately 70 percent of the property is utilized for the cultivation of inground plants. Aboveground plants are cultivated on approximately 25 percent of the property and, with the exception of from an area located south of the onsite lake, the container plants are generally grown in shade houses located west, northwest, and east of the barn, and in an area located east of the former northern shadehouse. **Figure 4** is a general Agricultural Land Use Layout Map, which designates areas and type of cultivated plants on the Brookside property.

Other site features and uses of the remaining 5 percent of the property area include a trailer, a barn, areas of abandoned trailers and automotive parts, pump houses, stockpiled solid wastes, and an onsite lake, which are described in detail in Section 4.2. **Figure 5** is a general Site Layout Map, which details current site features.

3.2 Review of Historical Aerial Photographs

A review of the historical aerial photographs was conducted to evaluate the location and extent of the onsite lakes, including a review of the barn area, solid waste areas and former pump station. Historical aerial photographs were obtained from the Palm Beach County Engineering Department located in West Palm Beach, Florida. Aerial photographs from 1968, 1973, 1978, 1981, 1984, and 1991 were reviewed at the Palm Beach County Engineering Department in West Palm Beach, Florida. The historical 1999 aerial photograph was reviewed at the Palm Beach County Property Appraiser Office. All aerial photographs are summarized below. **Appendix B** includes a copy of the historical aerial photographs are provided in.

- 1968: The subject property appears to be utilized for row crop cultivation in its entirety with the exception of a 600 feet by 600 feet area of land on the northwestern portion of the property. That portion of the property is primarily overgrown. The site is traversed by north-south irrigation canal, with four east-west irrigation canals located on the western third of the property. Three structures are visible south of the overgrown area along an onsite north-south canals. The irrigation pump house located on the northern property boundary area is also visible.
- 1973: The eastern two thirds of the subject property are utilized for row crop cultivation. A rectangular barn, measuring 80 feet by 30 feet, which is currently in use at the property was visible on this aerial photograph. Three smaller objects, approximately 4 ft by 6 ft are located east of the larger rectangular structure. Row crop cultivation has ceased on the western third of the property. An oval track of approximately 900 ft (north-south length) has been constructed on the western third of the property. A rectangular shaped lake, approximately 150 ft by 200 ft, is located in the central portion of the track. A rectangular structure, approximately 50 ft by 20 ft, is visible on the southwestern portion of the property. A small structure, approximately 10 ft by 15 ft, is visible to the south of the trailer location, in the area of the former pump house.
- 1978: The subject property appears to be relatively unchanged since the 1973 aerial photographs. The general configuration and property use remains the same as previously noted.
- 1981: The eastern two thirds of the subject property remains agricultural land. Staged vehicles are noted in the barn area. A smaller, approximately 40 ft by 15 ft trailer is located north of the barn. The configuration of the onsite lake, located in the center of the track, has changed and an additional lake constructed as follows: The rectangular lake has been divided into two lakes at its central portion. The lateral extent remains approximately the same on the western portion. It appears that a small portion of the eastern extent, approximately 30 ft, has been filled in. The central portion of the lake has been filled in such that a long lake, approximately 750 ft by 50 ft, bisects the lake perpendicularly, and parallels the long sides of the track. The two smaller resultant lakes are, on their longest sides, approximately 200 ft by 150 ft (western triangular shaped lake) and 200 ft by 250 ft (eastern square shaped lake).
- 1984: The eastern two thirds of the property appear used for agricultural lands including container grown plants cultivation. An approximately 400 ft by 300 ft area of land west of the barn area is cleared but not utilized for crop cultivation. Vehicles are visible staged south of this area. The rectangular structure north of the barn is not present. Two of the lakes on the western third of the property (west and central perpendicular) have been filled in. The eastern square lake remains in the same general configuration as

noted in the 1981 aerial photograph. Portions of the lake's northern, western and southern sides may have been filled in further (estimated 10 ft to 20 ft). Two additional structures are visible south of the structure located in trailer area and east of the pump house. The smaller structure is only partially visible under tree cover. The larger structure appears to be approximately 30 ft by 80 ft.

1989: Three shade houses are visible in the area of the barn, approximately 150 ft by 300 ft, 200 ft by 150 ft, and 500 ft by 150 ft. An approximate 50 ft by 50 ft shade house extension is visible to the east of the onsite barn. The western and perpendicular lakes were completely filled in. To the north of the eastern lake, activity is noted in the area designated as a former dump. On the northwestern most portion of the property, staged vehicles in a cleared area of land are visible. One square structure is visible on the southwestern property area. A cleared area of land is visible on the northeastern portion of the subject property, in the area of the stockpiled debris.

1991: The subject property appears in the same general configuration as the 1989 aerial photograph. Staged vehicles, including semi tractor trailers are visible along the main dirt access road. The shade house located directly east of the barn is now configured as an approximately 100 ft by 50 ft rectangle. Due to the quality of the aerial photograph, the exact nature of activity in the area of the stockpiled debris is not discernable. Areas corresponding to the backfilled lakes are covered with trees for container plants. No additional changes were noted to the remaining onsite lake. A rectangular trailer-like structure is visible in the area of the Brookside Realty office. Tree cover extends over the former pump house and structures east of that location.

1999: The subject property appears in the same general configuration as the 1991 aerial photograph.

3.3 Historical Source Review

A chain of title was not provided to URS for review, however based on a review of aerial photographs, file review and conversations with property contacts, the subject property does not appear to have been utilized for any other purposes other than described in the preceding sections.

3.4 Fire Insurance Maps

URS requested Sanborn Fire Insurance Maps from Environmental Data Resources, Inc. (EDR). However, no fire insurance maps were available for the subject property target area. A copy of the Sanborn Fire Insurance Map request is provided in **Appendix C**.

3.5 City Directories

Historical city directories were reviewed at the Palm Beach County Public Library. The Polk, Hill Donnelley, and the Cross Reference City Directory of Delray Beach and Vicinity were reviewed for information which may shed light on past land uses on the subject property. Directories were reviewed for the following two addresses: 288 Smith Sundy and 14450 Smith Sundy. In addition, due to the then remote location of the Brookside Farms property, attempts were made to cross reference site names using telephone number listings. The earliest directory available for review was dated 1959 and were sporadic thereafter until 1975, from whence directories were reviewed on 5 year intervals.

1959 – 1973 No Smith Sundry Road

1973 No city directory

1975 – 1978 Smith Sundry Road is listed but with no addresses for each listing. Brookside Farms was not listed. Historical property names were not discernable.

1979 – 1981 Brookside Farm South listed with no street address

1982 No Brookside Farm listing

1983 No city directory

1984 – 1985 14450 Smith Sundry – Brookside Tree Farm & Nursery
– Architectural International Designs

1990 14450 Smith Sundry – Brookside Tree Farm & Nursery
– Popynick, Alan

1995 288 Smith Sundry – Tropical Growers

14450 Smith Sundry – Brookside Realty
– Brookside Tree Farm
– Big Time Wholesale
– Girardi & Assoc
– Glen View Tree Farm
– Plant Stand Co
– S&W Nursery
– Starky Road Assoc

2000 288 Smith Sundry – Brookside Tree Farm & Nursery
– Tropical Growers
– Girardi & Assoc
– Glen View Tree Farm
– S&W Nursery
– Starky Road Assoc
– Whitbeck Angelique

14450 Smith Sundry – Brookside Realty Corp
– Plant Stand Co

Based on the information provided in the city directories, the historic name of the Brookside Farms property, prior to 1979 was not identifiable. Historical aerial photographs depicted the property as actively used prior to 1968. A legal description and chain of title search would be required to obtain additional information on the property.

3.6 Previous Environmental Investigations

URS has reviewed the following historical documents pertaining to the Brookside Farms Property.

3.6.1 *Phase I Environmental Property Assessment, Nutting Environmental of Florida, June 23, 1997*

At the time of the Phase I investigations, the subject property was utilized as a tree and foliage nursery. A concrete floor barn, 'L' shaped trailer, and numerous shade houses were located on the property. The remaining land areas were utilized for nursery purposes. Historical uses of the property have included

agricultural and/or equestrian land use since at least the 1960s. Nursery operations commenced in the 1980s. Other site features include a lake and overgrown areas in the northwest and southwest portions of the property.

No offsite facilities with the potential to create onsite recognized environmental concerns (REC) were identified within the Phase I assessment. The following areas of onsite REC were identified:

Area #1 – A 500-gallon capacity aboveground storage tank (AST) containing diesel fuel located near the barn. Evidence of a leak onto nearby soils was noted.

Area #2 – Pesticide mixing and loading activities are conducted within the barn. Based on the potential for spills and accumulation of pesticides in soils, this area was identified as an onsite REC.

Area #3 – Changes to the shape of the onsite lake was noted during the review of the aerial photograph. Due to the potential use of unsuitable backfill material, this area was identified as an onsite REC.

Area #4 – Although onsite irrigation wells were powered either electrically or by propane fuel, the historic trend of plant nursery was to use diesel fuel to power pumps. Therefore, this area was identified as an onsite REC.

Area #5 – Debris was noted on the northeast [tree trunks, palm fronds and other biodegradable waste] and central-western [construction debris, an abandoned recreational vehicle] portions of the site, as well as near the truck loading ramp.

Area #6 – Former agricultural staging areas identified within the aerial photographs located on the northwest and southwest corners of the property.

Area #7 – Debris noted on the north-central property boundary [construction materials, tires, corrugated piping, PVC, and other non-hazardous waste]. Indications of solid waste dumping were also noted in the aerial photograph review of the site.

3.6.2 Phase II Environmental Property Assessment, Nutting Environmental of Florida, June 30, 1997

A total of 16 test pits were advanced in the areas where the potential presence of buried debris was noted in Phase I investigations. Debris [wood, metal, concrete, plastic and household trash] was identified in test pits advanced west of the onsite lake, and in known areas of stockpiled debris.

A total of 19 soil borings were advanced throughout the subject property, including within areas of concern identified as part of Phase I activities. Petroleum odors were noted in soils in the AST area. Six soil samples were submitted from the barn for analysis of EPA Method 8080 and 8 RCRA metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver). Sample SS-9 exhibited arsenic concentration of 1.5 milligrams per kilogram (mg/kg), in excess of the Soil Cleanup Target Level (SCTL) Residential Criteria of 0.8 mg/kg but below the Industrial/Commercial standard of 3.7 mg/kg. Other soil analytical results were below the SCTL.

One monitor well (MW-1) was installed adjacent to the AST to evaluate the potential for petroleum, pesticide and metal impacts within that area. Arsenic (99.0 micrograms per liter (ug/L)) was exhibited in sample MW-1 in excess of its Groundwater Cleanup Target Level (GCTL) of 50 ug/L. Other groundwater analytical parameters were below the GCTL.

Based on the groundwater results, four additional soil borings were advanced in the AST area and analyzed for EPA Method 8080 and arsenic. Sample SSX-1 exhibited arsenic concentration of 2.8 mg/kg, in excess of the SCTL of 0.8 mg/kg. Sample SSX-3 exhibited an elevated level of arsenic, 0.7 mg/kg, but below the SCTL. Other soil analytical results were below the SCTL. A more detailed discussion of the Nutting Environmental Phase II ESA results are provided with URS' January 2002 Phase II ESA investigation.

3.6.3 Phase II Environmental Property Assessment, URS Corporation, January 8, 2002

URS conducted a Phase II ESA of the Brookside Farms Property to evaluate the data previously collected by Nutting Environmental and to further investigate the soil and groundwater at the site as a result of impacts from arsenic and petroleum products. At the time of the Phase II ESA, the subject property was utilized as a landscape tree and nursery farm. The historical property usage included row crops, landscape tree farm, and container grown plant cultivation. Based on the review of the Nutting Environmental summary reports, the following three areas of concern were evaluated as part of Phase II ESA activities. **Figure 6** includes a depiction of the areas of concern identified during Phase II ESA activities. Included within **Appendix D** is a copy of the text, figures and tables associated with the Phase II ESA.

Area B-1 Barn/AST Area

Area B-1-1 – Barn Area

Area B-1-2 – Aboveground Storage Tank Area

Area B-2 Pump Stations

Area B-2-1 – Former Pump House

Area B-2-2 – Irrigation Pump Station

Area B-3 Solid Waste

Area B-3-1 – Stockpiled Solid Waste

Area B-3-2 – Former Dump Area

Area B-3-3 – Current and Former Lakes Area

The Phase II ESA investigation consisted of intrusive activities including the installation of groundwater monitor wells, and collection of soil and groundwater samples. In addition, exploratory test trenches were excavated into areas suspected of having buried solid wastes to evaluate if waste was present, the type of wastes and quantity that were buried onsite. The intrusive work was supported by non-intrusive activities including a reconnaissance of the property and review of historical aerial photographs. The following is a summary of the results of the Phase II ESA activities.

Area B-1-1 – Barn Area

The barn area, which was constructed between 1968 and 1973, was used for the storage and mixing of agrochemicals, as well as the staging of farm and nursery equipment. On June 13, 1997, Nutting Environmental advanced four soil borings (SS-1, SS-2, SS-9, SS-10) in the barn area. Samples were submitted for analysis of pesticides via EPA Method 8080 and 8 RCRA metals. All constituents of EPA Method 8080 were below laboratory detection limits (BDL). Arsenic was detected in sample SS-9 at 1.5 mg/kg, in excess of the SCTL of 0.8 mg/kg. Low levels of barium, cadmium, chromium, and lead were also exhibited in the samples, below the applicable SCTLs.

According to the Phase II ESA report, one monitor well (MW-1) was installed adjacent to the AST. The well was sampled for various constituents of concern, including pesticides and 8 RCRA metals. Arsenic was exhibited at 99.0 ug/L, in excess of the GCTL of 50 ug/L. Low levels of chromium and lead was also

exhibited in sample MW-1. Other analyzed constituents were BDL. Based on the results of the soil and groundwater samples, Nutting Environmental advanced an additional four soil borings (SSX-1 through SSX-4) around the AST. Sample SSX-1 was analyzed for pesticide and arsenic. Samples SSX-2 through SSX-4 were analyzed for arsenic only. Arsenic exceeded its SCTL residential criteria in sample SSX-1 at a concentration of 2.8 mg/kg. Arsenic was detected in sample SSX-3 at 0.7 mg/kg. Arsenic was not detected in samples SSX-2 and SSX-4. All constituents of EPA Method 8081 were BDL.

On December 5, 2001, URS advanced 16 soil borings (B-B-1, B-B-2, B-B-7 through B-B-12, B-B-15 through B-B-22) throughout Area B-1-1 Barn Area. Boring B-B-1 was advanced south of the barn's canopy area, adjacent to the dirt road where there was a potential for discharge of agrochemicals to the ground surface. Boring B-B-2 was advanced north of sample B-B-1, on the northern extent of the canopy area. Boring B-B-7 was advanced at the northeastern end of the barn canopy area. Boring B-B-8 was advanced in front of the door to the chemical storage room, towards the northwestern end of the canopy area. Boring B-B-9 was advanced on the western side of the barn/storage building where the potential for outdoor storage and/or mixing of agrochemicals was likely. Boring B-B-10 was advanced in the center of the shade house located west of the barn near a water faucet where the potential for addition of water to agrochemical solution may have occurred. Boring B-B-11 was advanced in the central portion of the former shade house located north of the barn. Boring B-B-12 was advanced on the northern extent of the former shade house, near an approximately 500 gallon AST whose original contents and use were unknown. Boring B-B-15 through B-B-19 were advanced in the area of the largest shade house located north of the main dirt road. Borings were advanced to evaluate surficial accumulation of agrochemicals within this area. Boring B-B-20 was advanced adjacent to a water faucet located on the western boundary of the former shade house north of the barn where additional mixing of agrochemicals may have occurred. Boring B-B-21 was advanced north of the shade house located west of the barn where historically elevated levels of arsenic was detected. Boring B-B-22 was advanced north of the barn along the southern extent of the former shade house to evaluate the central chemical mixing/storage area. Soil samples were collected from each boring and submitted for analysis of arsenic content.

Only one sample (B-B-8) at 4.00 mg/kg exceeded the SCTL Industrial standard of 3.7 mg/kg and arsenic concentrations in samples B-B-7 (0.916 mg/kg) was in excess of the SCTL Residential standard of 0.8 mg/kg. Arsenic was exhibited in 11 other samples, ranging from 0.147 mg/kg to 0.785 mg/kg, below the SCTL. Samples B-B-12, B-B-20 (BTMW-2), and B-B-21 (BTMW-3) did not exhibit arsenic concentrations above detection limits.

On December 6, 2001, three monitor wells were advanced in the barn area to evaluate groundwater arsenic impacts. Well BTMW-1 was advanced south of the barn to intercept groundwater flow/runoff from the chemical storage and mix area. Well BTMW-2 was advanced in a centralized water supply area. BTMW-3 was advanced south of the stockpiled debris.

On December 10, 2001, groundwater samples were collected from the wells and submitted for analysis of arsenic. Arsenic was exhibited in sample BTMW-1 at 17 ug/L, BTMW-2 at 9 ug/L, and BTMW-3 at 24 ug/L, below the GCTL of 50 ug/L.

Area B-1-2 – Aboveground Storage Tank Area

One approximately 550 gallon AST was observed staged north of the barn area, near the eastern fence of a former shade house. According to the Nutting Environmental Phase II ESA report, an AST was previously located to the east of and adjacent to the barn. At the time of URS' Phase II ESA investigations, the area east of the barn was utilized as an enclosed shade house. South of the barn was a diesel engine which may have utilized fuel from the AST.

To evaluate the current AST location and the AST location reported by Nutting, two soil borings were

advanced within each of the three mentioned areas and samples screened with an OVA to evaluate the soil for petroleum hydrocarbon vapors. OVA readings of the collected samples were less than 10 parts per million (ppm). Sample B-B-13 was submitted for analysis via FL-PRO and EPA Methods 8020 and 8100. The soil analytical constituents analyzed were BDL.

Area B-2-1 – Former Pump House

The former pump house was located south of the Brookside Realty Sales Trailer Office located on the western portion of the property. Review of the historical aerial photographs indicated that the former pump house was constructed prior to 1973. At the time of the Phase II ESA activities, the pump house was not in use. A water filtration unit and an electric pump were observed staged inside the pump house. URS observed an exposed PVC pipe south of the pump house, in a dry canal. It was not possible to determine if the pipe was connected to the pump house. The Nutting Phase II ESA indicated that one soil boring was advanced in the area of the pump house. No odors or staining was noted in the soil. The sample was not submitted for laboratory analysis.

On December 7, 2001, six soil borings (FPHSB-1 through FPHSB-6) were advanced within this area to evaluate the presence of petroleum impacts. Three borings were advanced in the pump house area where the an AST to power the pump may have potentially been located. The remaining three borings were advanced along the embankment nearest to the exposed PVC pipe.

Borings were advanced to the water table, encountered at approximately 4 feet bls and were analyzed with an OVA. All OVA readings were less than 10 ppm. Based on the configuration of the pump house, it is URS' opinion that water from the potable well was not recovered by a motor powered by petroleum based fuel. Therefore, no sample was collected from this area for analysis.

Area B-2-2 – Irrigation Pump Station

The irrigation pump station consists of a diesel motor and dilapidated metal shed. No AST was observed staged in this area. The pump station was accessible by a dirt bridge to the south of the pump station. The pump station is bordered to the south and north by canals. It is URS' opinion that, based on the configuration of the pump station and limited accessibility to the area, an AST fuel tank would be most likely have been located immediately east of the pump station. No intrusive investigations were conducted in this area by Nutting during their Phase II ESA.

On December 7, 2001, three soil borings (FIWPA-SB-1 through FIWPA-SB-3) were advanced to evaluate the presence of petroleum impacts. Borings were advanced to the water table, encountered at approximately 4 feet bls and were analyzed with an OVA. All OVA readings were less than 10 ppm. Based on the likelihood of the AST located east of the pump station, a soil sample, FIWPA-SB-3 (2-4), was collected from the groundwater interface on the east side of the irrigation shed and submitted for analysis via FL-PRO and EPA Methods 8020 and 8100. All soil analytical constituents were BDL.

Area B-3-1 – Stockpiled Solid Waste

On the northeast portion of the property, a mound of stockpiled debris was observed overgrown with vegetation. The stockpile measured 40 feet by 40 feet by 15 feet high. In 1997 Nutting Environmental advanced two test pits into the stockpile. Pits were advanced to two feet up into and seven feet bls. Pit TP-15 was advanced on the northern end of the debris pile. No solid wastes were identified. Pit TP-16 was advanced on the southern portion of the stockpile. Vegetative wastes were observed from 2 feet above grade extending to one foot below grade.

On December 6, 2001, in order to further evaluate and quantify the debris, five trenches (TTSP-1 through TTSP-5) were excavated into the debris stockpile. Solid waste was encountered in trench TTSP-1 consisting of concrete, rebar and tree parts. This trench was advanced into the stockpile. To further

evaluate the vertical extent of the solid waste, trench TTSP-2 was advanced parallel to the stockpile and perpendicular to trench TTSP-1. Solid wastes were not observed buried within that area. To evaluate the lateral extent of the concrete, trench TTSP-3 was advanced into the debris stockpile, beginning at the southern edge of trench TTSP-2. Encountered debris was consistent with that identified in trench TTSP-1.

One test trench (TTSP-4) was advanced on the northeastern portion of the stockpile to evaluate the consistency of the buried solid wastes. The trench was advanced into the stockpile area while extending just slightly lateral at the base. Several pieces of concrete bricks were observed and minor amounts of debris noted.

One test trench was advanced on the southeastern portion of the stockpile. Vegetative debris was primarily noted approximately 10 to 15 feet above grade on the northeastern debris stockpile. The excavated area consisted of topsoil. Construction debris was not noted.

Area B-3-2 – Former Dump Area

One test trench was advanced in the area identified by Nutting Environmental as a former dump to evaluate the presence of buried materials/waste/debris. Based on review of the 1989 aerial photograph of the area, this area was open, void of vegetation and it appeared that there may have been areas excavated which is typical of dumping activities. In 1997, Nutting Environmental advanced two test pits (TP-12 and TP-13) into this area. Solid wastes were not encountered in the test pits. In addition, three soil borings were advanced in and around the dump area. Solid wastes were not observed in the borings. No abnormal odors or colors were noted.

On December 6, 2001, URS advanced one test trench (TTFD-1) into the dump area. The trench was advanced beginning at the nearby canal, extending southwesterly toward the agricultural lands area. Small chips of solid wastes including shells, terracotta and red brick were observed. Visual inspection of the wall of the excavation area indicated that undisturbed soil existed at approximately two feet below grade, indicating that the upper two feet solid waste may be mixed with soil.

Area B-3-3 – Current and Former Lakes Area

Review of the 1973 aerial photograph showed a rectangular shaped lake, measuring 400 feet long by 160 feet wide was present in the western portion of the property. An elliptical equestrian track had been constructed around the track and farming had ceased in the area on the subject site. The 1981 photograph showed the central portion of the lake had been filled and a 760 foot long by 45 foot wide, elongated rectangular shaped lake was present transecting the existing lake in the part that had been filled, thereby creating three individual lakes. By 1984 the elongated rectangular lake and the western most lake had been filled, and the subject site was being utilized as a tree farm. The current configuration of the eastern most lake indicates that the outer portions have also been filled.

On June 16, 1997 Nutting Environmental advanced eight test pits (TP-1 through TP-6, TP-9 and TP-10) in the area of the former lakes. Pits were advanced until natural soil was encountered. Debris was encountered in test pits TP-1 through TP-6 consisting of concrete, metal, wood, plastic and household trash. A strong organic odor was noted emanating from the test pits.

As part of the URS Phase II ESA activities, test trenches were advanced into the filled areas of the former lakes to evaluate the backfill material. All trenches were advanced to the water table (approximately 3 to 4 feet below grade). Where debris was encountered, an area of the trench was extended vertically to evaluate the depth of the buried debris. After excavating the trenches were inspected.

On December 5 and 6, 2001, test trenches were excavated into areas surrounding the existing east lake and former lake areas. A total of 10 test trenches (TTFL-1 through TTFL-10) were excavated around the

lake. Trenches were advanced both laterally (parallel to lake) and perpendicular (into lake bed). The parallel trenches were between 11 feet to 57 feet in length. The perpendicular trenches were between seven and 28 feet long. Observed items included small pieces of terracotta, glass, wood, tree limbs, and concrete. Large size pieces of solid wastes were not observed in any of the trenches.

Trench TTFL-11 was excavated on the northern portion of the former elongated lake perpendicular to the lake so as to bisect the lake. The trench was approximately 135 feet long. Solid wastes were identified including construction debris (foundation rods, large concrete pieces), glass bottles, metal pipe pieces. The area where the debris was encountered measured approximately 40 feet, which is the width of the lake based on historical aerial photographs. A musty odor was noted in the areas where solid wastes were identified and the groundwater had a black tint.

Trenches TTFL-12, which measured 63 feet, and TTFL-16, which measured 30 feet, were excavated north of TTFL-11 to evaluate the northern extent of the former elongated lake. The solid wastes were consistent with items identified in trench TTFL-11, and the area measured 30 feet in length. Trench TTFL-16 was advanced along the dirt road north of the former central lake to evaluate the northern extent of the central lake. Buried debris were not observed in trench TTFL-16.

To evaluate the southern extent of the former elongated lake, test trenches TTFL-13, which measured 63 feet, and TTFL-14, which measured 85 feet, were excavated into an area where containerized plants are grown. Solid wastes were not encountered in trench TTFL-13. Trench TTFL-14 was excavated linearly east of TTFL-13, at a distance of approximately 11 feet apart. Pieces of tile, concrete chunks, glass, and sections of trees and tree stumps were encountered on the western extent of the trench TTFL-14, corresponding to the former lake. The main debris area was approximately 40 feet in length and extended below the water table. A musty odor was also noted in trench TTFL-14.

In addition to trench TTFL-14, one soil boring (SB-FL-1) was advanced to a depth of 8 feet bls, south of the former elongated lake to determine the southern extent of the lake. The boring was advanced using split spoons on the main east-west dirt road with the purpose being to evaluate the lithological data for evidence of buried debris. Evidence of buried debris was not identified.

Trench TTFL-15 was excavated a total of 130 feet in the central portion of the former west lake. Solid waste was encountered the entire length of the trench. Wastes consisted of construction debris, large concrete cinder blocks, large pieces of 2 by 4 wood, rebar, large tree limbs. The trench was excavated to the limits of the dirt road located west of the crop cultivation area. The western extent of the buried debris was not determined due to the presence of large trees obstructing excavation. Due to the fact that solid waste was encountered along the length of the trench, which verified that the former west lake was filled with debris the trenching activities were not continued west past the tree obstructions.

Based on the results of the Phase II ESA, URS additional corrective actions were warranted in four of the seven areas of concern identified (Area B-1-1 – Barn Area, Area B-3-1 – Stockpiled Solid Waste, Area B-3-2 – Former Dump Area, and Area B-3-3 – Current and Former Lakes Area). Based on the results of soil and/or groundwater samples collected, no further actions were warranted in association with the remaining three areas. The following is a summary of URS' recommendations.

Area B-1-1 – Barn Area (Arsenic)

A Limited Site Assessment should be conducted within Area B-1-1 – Barn Area. Approximately 240 cubic yards of arsenic impacted soil should be excavated and transported offsite for proper disposal. Confirmation soil and groundwater samples should be collected to document the effectiveness of the corrective actions. Groundwater samples should be collected from these wells on a quarterly basis and analyzed for arsenic for at least one year to monitor natural attenuation.

Area B-3 – Solid Wastes

Approximately 26,600 cubic yards of solid waste is present at the subject property and, prior to the development of the property, the solid wastes should be excavated, transported offsite for disposal. The FDEP should be notified of the buried solid wastes per the Florida Administrative Code Chapter 62-701 Solid Waste Management Facilities, which regulates activities relating to both registered and unregistered dumpsites.

Other Concerns

In order to properly evaluate the property for use as a school URS recommends that an additional Phase II assessment be conducted to evaluate the potential presence of agrochemicals and to confirm soil quality at the site.

4.0 SITE RECONNAISSANCE/PRESENT SITE CONDITIONS

Reconnaissance of the subject property was conducted on January 17, 2003 to observe and document the present conditions. In addition, to the extent that it was accessible, a "drive-by" survey of the vicinity was conducted to observe and document the nature of neighboring properties. The following subsections present a summary of the conditions observed and the information obtained.

4.1 Interviews

Mr. Glen Wilcox of Tropical Growers International was interviewed for information pertaining to current and historical site operations. Mr. Wilcox indicated that Brookside Farms is undergoing a name change to Tropical Growers International. Supplemental site information provided by Mr. Wilcox are included within their respective sections.

According to Mr. Wilcox, the site maintains an Occupational Permit with Palm Beach County (permit years and numbers are 1996-2262 and 1996-2263). Review of the Palm Beach County Tax Collector Occupational License website indicated that the permits are active and registered to Tropical Growers International. The types of business are listed as landscaping and nursery wholesale. Both permits are scheduled to expire on September 30, 2003. A copy of the website information is provided in **Appendix E**.

Mr. Wilcox also indicated that Brookside Farms operates under a Florida Department of Agriculture permit (nursery registration number 04718495) and provided a list of historical agrochemicals utilized as part of site operations.

4.2 Subject Property Description

URS conducted a drive-through of the Brookside Farms Property and a walk through of areas inaccessible by vehicular traffic. Photographs taken during the site inspection and field activities are included in **Appendix A**. A Site Location Map, generated from the March 1999 aerial photograph of the area, is presented as **Figure 5**.

At the time of the site inspection, the Brookside Farms Property was considered agricultural lands and partially utilized as both an in-ground and containerized tree farm. Access to the site was achieved from a gated entrance located on the western property boundary, which leads to the main east-west dirt access road.

Immediately southeast of the entrance was a 'T' shaped trailer, approximately 150 feet by 20 feet on both sections of the trailer, utilized as an office unit for the tenant Transportation Safety, which is responsible for the placement of traffic and road lights along State Road 441. An abandoned air conditioning unit and pad are located southwest of the trailer. Immediately north of the trailer are the stairs and physically disabled entrances followed by a graveled parking area. Several traffic lampposts were located to the east of the trailer and two portable storage containers were located north of the trailer and access road. Representatives of Transportation Safety indicated that no chemicals were required to do business and only lampposts and lights were temporarily staged onsite. **Figure 7** is a general layout of the trailer area and structures located in its vicinity.

An open-air canopy, approximately 20 feet by 20 feet, with a concrete floor adjoins the eastern portion of the trailer. Items observed staged on the concrete floor included one engine, one motor, bottles of motor oil, one approximately 150-gallon plastic aboveground storage tank, metal beams, plastic cones and street signs. Minor amounts of surficial staining were noted on top of the concrete pad. To the east of the canopy area is an asphalt paved driveway leading to the main dirt access road.

A small 10 feet by 8 feet former pump house with two rooms was located immediately south of the trailer. The eastern room had shelves but was not utilized for the storage of any items. A water filtration unit (propane powered) was located in the western room. The well associated with the unit was located on the southern side of the pump house. The potable well is reported to be active and servicing the trailer.

An abandoned automotive flatbed trailer, measuring size 20 feet by 10 feet, were located immediately south of the pump house. An exposed PVC pipe was identified south of the abandoned hitch, in the area of a dry canal. To the east of the pump house is a large concrete pad, approximately 75 feet by 25 feet, which may have been the foundation for a structure. An abandoned trailer, approximately 50 feet by 15 feet, was located east of the concrete pad.

To the north and east of the property entrance buildings are overgrown agricultural lands. Based on visual observations, inground trees were cultivated in this area and immediately east of the trailer. Additional areas on the central, eastern, and southern portions of the property were utilized for the cultivation of inground plants. Containerized plants were cultivated on the western and central portions of the property. Inground plants were cultivated on approximately 70 percent of the property while aboveground containerized plants were cultivated on approximately 25 percent of the property. **Figure 4** depicts the approximate limits of the cultivated areas used for inground plants and containerized plants.

One curved-triangular shaped lake is located on the northwestern portion of the property. Based on the review of historical aerial photographs, the lake was the easternmost of three former lakes (see Section 3.2). The westernmost curved-triangular and central rectangular shaped lakes were backfilled with buried solid wastes (see Section 3.6.3). At the time of the site reconnaissance, the area was overgrown and had been formerly utilized for inground and container grown tree cultivation. The current lake appears smaller than its original size.

Based on the review of historical documents, a small area of land northeast of the lakes was used as a former dump area. Currently, the area corresponding to the former dump is overgrown and was formerly used as a dirt road that bordered a containerized plant area. Excavations within this area during Phase II ESA activities did identify evidence of buried solid wastes.

An inactive irrigation pump station is located northeast of the former dump area and adjoining canal, along the northern property boundary. The irrigation pump station consists of a two foot diameter pipe extending into the canal to the south, a shed, and a diesel motor located inside the shed. Based on the condition of these items, the pump station has been out of use for an extended period of time. No AST

were located near the pump station. Solid wastes, including used tires and empty 55-gallon drums, were observed scattered in the overgrown area east of the pump station. One electrical irrigation pump is located on the northern portion of the property, east of the inactive irrigation pump station.

On the northeastern portion of the property, an overgrown solid waste stockpile was observed. Due to the density of the overgrowth, visual review of stockpile contents was not possible. Excavations of the stockpile during Phase II ESA activities indicated that the stockpile consisted of soil and vegetative wastes. Construction debris or buried solid wastes were not observed within the stockpile.

On the southeastern portion of the property, a barn and several current and former shade houses were observed. South of the barn is a dirt access road followed by a small irrigation canal. The barn consists of two storage areas on the western portion and an open-air canopy area. The open air canopy area is surfaced with concrete. The westernmost storage area was historically utilized as an office. Currently, bottles of water and some office equipment were observed within this storage space. The eastern storage space was historically and is currently utilized to store vehicular repair equipment and fluids. Agrochemicals, including one 25 gallon plastic drum labeled Roundup and filled to approximately ¼ capacity, and several open and partially used 50 pound bags of agrochemicals (labels unreadable), were stored throughout the eastern storage area. Farm equipment and machines were staged in the open air canopy area, as well as numerous 50 pound bags of agrochemicals, some of which were labeled organic release nitrogen, fertilizer, and magnesium sulfate. Additional discarded items in the vicinity of the canopy area included a motor on the southern portion, plastic tubing, and agricultural supplies. **Figure 8** depicts the general layout of the barn area.

Adjoining the barn to the east is an abandoned shade house. Some solid wastes were observed on the western portion of the shadehouse, adjacent to the canopy. Items included spades, tires, containers and agricultural supplies.

To the west of barn, across the dirt access road is another shade house, which has a concrete equipment staging area on the southeastern most corner of the shade house. The interior space of the shadehouse was utilized for growing containerized plants. Empty containers were observed staged along the eastern portion of this shade house.

North of the barn is an equipment/supply area which was historically used as a shade house. The easternmost wall of the former shadehouse currently remains. Just west of the central portion of the remnant shadehouse wall is an approximately 500 gallon AST, which was historically reported to contain diesel fuel. The tank was not connected to any dispensers and appeared to be out of use. This AST is in the same location as observed in December 2001. The tank was empty of its original contents. An approximately 500 gallon agricultural nurse tank was also observed staged within this area. The nurse tank was empty of contents at the time of the site reconnaissance. Additional items staged within this area included abandoned farm equipment and motors, bags of agricultural landscaping supplies such as mulch, wooden crates used to transport supplies, and miscellaneous solid wastes.

North of the shade house located west of the barn is a solid waste debris stockpile area measuring approximately 125 feet long by 50 feet wide by 15 feet high. Items observed within the stockpile consisted primarily of tree limbs and vegetative wastes. Household trash items were not observed in the debris stockpile. This stockpile area may have served as a former vegetative waste burn area.

North of the debris stockpile and main across the dirt access road, the foundation poles of the largest of the former shade houses was observed. The area within this shade house appears overgrown and was primarily utilized for container grown plants. The area due east of this shade house was an open-air area that was actively utilized for cultivating containerized plants.

4.2.1 Hazardous Substances and Chemicals

Hazardous substances observed onsite included agrochemicals such as numerous 50 pound bags of organic release nitrogen, fertilizer, and magnesium sulfate, and automotive repair fluids such as motor oil. These items were observed staged both on the concrete floor of the open canopy and in the storage area of the barn. De minimis volumes of automotive fluids were staged in the canopy area east of the trailer.

4.2.2 Underground and Aboveground Storage Tanks

According to Mr. Wilcox, no underground storage tanks (USTs) have been located on the subject property. One historical 500-gallon aboveground storage tank, which contained diesel fuel, was located on the subject property. At the time of the site reconnaissance, URS did not observe any evidence, such as fill or vent pipes of USTs, however the AST was observed empty of original contents, inactive, and staged north of the barn. A 500 gallon plastic agricultural nurse tank was observed staged north of the barn. A smaller 55-gallon agricultural nurse tank was observed staged on the concrete pad located east of the onsite trailer. Neither of the two agricultural tanks were observed to contain fluids.

4.2.3 Transformers and Polychlorinated Biphenyls (PCBs)

Pole mounted transformers were observed on the property boundary areas. No pad mounted transformers were observed onsite. Florida Power and Light Company (FPL) owns and maintains the exterior transformer equipment. FPL has discontinued the use of PCB-containing transformers and capacitors. However, some older generation transformers may still be in use yet today. In accordance with FPL policy, in the event of a leak, spill, or release of PCB-containing oil from one of these transformers, FPL is responsible for cleanup in accordance with local, state, and federal regulations.

4.2.4 Solid Waste Disposal

Solid wastes observed on the subject property primarily consisted of lifting crates, bags of agricultural supplies, some household items, plastic containers, agricultural tanks, vegetative wastes, and abandoned equipment. An abandoned trailer and truck flatbed hitch were observed south of the former pump house on the western portion of the property.

One vegetative stockpile is located northwest of the barn. The stockpile measures approximately 124 feet long by 50 feet wide by 15 feet high. One overgrown solid waste stockpile is located on the northeastern portion of the property. Due to the density of the overgrowth, inspection of stockpile contents was not possible. Based on historical site assessments, the stockpile contains vegetative wastes and soil.

Parts of abandoned farm equipment, agricultural supplies such as crates and mulch, were observed in the open area north of the barn. Additional volumes of agrochemical supplies such as tubing, agrochemical bags, and abandoned equipment were observed staged south of the barn. Immediately east of the shadehouse located west of the barn is a stockpile of black plastic containers used to grow small aboveground plants.

4.2.5 Wastewater Disposal

According to Mr. Wilcox, Brookside Farms does not discharge any wastewater and does not maintain any wastewater discharge permits or agricultural discharge permits. Mr. Wilcox indicated that one septic tank is located to the east of the trailer and carport on the western portion of the property.

4.2.6 Wells

Irrigation and temporary monitor wells were observed in the barn area and scattered throughout the subject property. Temporary monitor wells observed were associated with historical Phase II ESA investigations discussed within Section 3.6.3 of this report.

According to Mr. Wilcox, there is one active potable well and former pump house located south of the office trailer. Well water is used to service the trailer and its restrooms and is not used for drinking purposes. One former potable well, which serviced the office attached to the barn, is located on the southern side of the barn and is out of service. Two irrigation wells are located on the property. One irrigation well is located on the northwestern portion of the property, in the vicinity of the onsite lake and was powered by propane fuel. The second irrigation well is located by the shade house in the barn area.

4.2.7 Pumps/Pump Stations

Based on the site reconnaissance and historical site documentation, three pumps/pump stations were identified at the subject property. One former pump station and associated motor, is located on the northern portion of the property, approximately 500 feet northwest of the onsite lake. One former pump station may have been located south of the barn's canopy area. Historically a motor and AST were located in that area. One electrical pump station was observed on the northeastern portion of the property.

4.2.8 Burn Areas

According to Mr. Wilcox, there are no burn areas on the property with the exception of the vegetative waste stockpile located northwest of the barn. No obvious burn areas were observed during the site inspection conducted on January 17, 2003.

4.2.9 Asbestos

An asbestos survey was not part of the scope of work for the Phase I ESA. However, onsite structures have been visible in their present locations since circa 1968/73. Asbestos bans were adopted in 1973 and 1975, which included spray-on fireproofing, molded asbestos insulation, insulating cements, as well as all building materials used in new construction. In 1986 and 1991, the Environmental Protection Agency adopted the asbestos hazards emergency response act (AHERA) and the asbestos ban and phase out rule was adopted, respectively. Based on the age of the onsite structures, there is the potential that construction materials may have contained asbestos.

4.3 Adjoining and Surrounding Properties

Properties adjoining the subject property were identified in an attempt to evaluate the reasonable likelihood of their activities to adversely affect, or to have affected environmental conditions at the subject property due to the presence and/or release of hazardous materials into the environment.

North: Happy Hollow Road followed by the Carter Road Tropical Nurseries (tree farm).

East: Agricultural land.

West: Smith Sundry Road followed by the Rancho de Macho Grande (equestrian).

South: Capella Farms Triple Groves and Equestrian.

5.0 SUPPLEMENTAL SITE INFORMATION

The subject property is known to have been utilized as agricultural lands since prior to 1968. Known cultivated crops have included nursery inground and containerized ornamental foliage plants. Mr. Wilcox also indicated that the property may have been used for row crop cultivation, such as tomatoes and peppers. Additionally, Mr. Wilcox provided a list of current and historical agrochemicals (see **Appendix F**).

The following is a general summary of each agrochemical, any other common names associated with the agrochemical, and their use as provided within the 2002 Farm Chemicals Handbook.

Avid – Abamectin – Insecticide, Miticide
Banrot – Etridiazole, Thiophanate methyl – Fungicide
Diazinon – Insecticide, nematicide
Dursban – Chlorpyrifos – Insecticide
Kocide – Copper Hydroxide – Fungicide, bactericide
Manzate – Mancozeb – Fungicide
Mavrik – tau-Fluvalinate – Insecticide, miticide
Orthene – Acephate – Insecticide
Pentac – Miticide (dienochlor) – Control of mites, discontinued by Novartis in 2000
Roundup – Glyphosate – Herbicide
Talstar – Bifenthrin – Insecticide, miticide, termiticide

The provided list of agrochemicals were also compared to the US Environmental Protection Agency's (EPA) List of Pesticides Banned and Severely Restricted in the USA, which is adopted from the UN PIC (Prior Informed Consent) and UN PIC - Nominated Pesticides List. None of the agrochemicals provided on the Brookside Farms list were also identified on the US EPA's list. A copy of the UN PIC and UN PIC-Nominated list is included in **Appendix F**.

The list included a total of 11 agrochemicals of which Roundup was said to be the only agrochemical currently in use. At the time of the Phase I ESA, numerous 50 pound bags of agrochemicals, some labeled organic slow release nitrogen, fertilizer, and magnesium sulfate, were staged within the canopy area of the barn canopy area.

Mr. Wilcox also provided the site's Florida Department of Agriculture permit number and its Palm Beach County Occupational License's registration number. These agencies as well as other supportive agricultural agencies (see Sections 6.2) were contacted for additional information on the Brookside Farms as well as generalized information on the nursery industry. Information obtained was primarily limited to that of basic permit statistics.

The University of Florida Institute of Food and Agricultural Services (IFAS) Extension offices of Palm Beach County was contacted for information regarding regional application of agrochemicals on similar nursery properties as well as general information regarding container grown plants and the regional application of agrochemicals on such properties. IFAS did not maintain a file on the Brookside Farms property.

6.0 REGULATORY REVIEW

To identify environmental concerns such as environmental permits, incidents, complaints, violations, response actions and remedial activities relating to owners and operators on the subject property, and on abutting and adjacent properties, several sources of information were reviewed, including federal, state,

and local agency records and databases. In addition, other regulatory agencies, which may govern one or more site activities, were contacted for information pertaining to the subject property.

6.1 Environmental Databases

Information gathered from several environmental databases through EDR, Inc. were reviewed to evaluate whether activities on or near the subject property have the potential to create a REC on the subject property. EDR, Inc. reviews databases compiled by Federal, state, and local governmental agencies. The complete list of databases reviewed by EDR, Inc. is included in **Appendix G**. It should be noted that this information is reported as URS received it from EDR, Inc., which in turn reports information as it is provided in various government databases. It is not possible for either URS or EDR, Inc. to verify the accuracy or completeness of information contained in these databases. However, the use of and reliance on this information is a generally accepted practice in the conduct of environmental due diligence. The databases searched and the information obtained is summarized below.

- USEPA National Priorities List (NPL) of federal Superfund sites, database of November 2002.
- USEPA Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) and no further remedial action (NFRAP), databases of September 2002.
- Resources Conservation and Recovery Act (RCRA) Corrective Action Site (CORRACTS), database of October 2002.
- USEPA RCRA large quantity generators and small quantity generators of hazardous waste, databases of October 2002.
- USEPA Emergency Response Notification System of spills (ERNS), database of July 2002.
- Florida state hazardous waste sites (SHWS), database of December 2002.
- Florida solid waste transfer stations; solid waste landfills; (SWF/LF), database of March 2002.
- Florida leaking underground storage tank (LUST), database of December 2002.
- Florida registered underground (USTs) and aboveground storage tanks (ASTs), databases of December 2002.

6.1.1 Subject Property

The subject property does not appear on any of the EDR databases searched by EDR.

6.1.2 Adjacent Properties

Adjacent properties were not identified on the databases searched by EDR.

6.1.3 Site Vicinity

The databases searched by EDR identified two sites in the vicinity of the subject property. Based on the review of documentation regarding each property and their proximity to the subject property, it is URS' opinion that the following sites do not pose a potential to adversely impact site conditions. However, neighboring agricultural land use sites, which includes the onsite regulation of groundwater and shared groundwater discharge canals, may pose a potential environmental concern to the subject property.

- Happy Hollow Nursery, 9827 Happy Hollow Road, at a distance of approximately 1/4 to 1/2 of a mile north of the subject property, was identified on the UST and LUST databases, however, only ASTs were reported to be historically onsite. Two 2,000-gallon aboveground storage tanks (one containing unleaded gas and one with vehicular diesel fuel) were removed from the site in July 1994. Elevated petroleum vapors and soil staining were observed in the tank area. A Contamination Assessment Report was conducted by EMS Environmental (August 3, 1995), which detected

concentrations of benzene and methyl-tert-butyl-ether (MTBE) in the vicinity of the tank farm. The results of the CAR indicated that the groundwater plumes for benzene and MTBE were isolated to the tank area and concentrations were below the applicable Groundwater Cleanup Target Levels. On April 30, 1996 the Florida Department of Environmental Protection (FDEP) approved the No Further Action status for the site.

- Atlantic Growers, Smith Sundry Road, was listed in two directories and locations relative to the subject property. It was first listed at a distance of approximately 4,000 feet southeast of the subject property. This location was reported as having had three underground storage tanks (two containing unleaded gas and one containing diesel fuel) removed in April 1992. No observable signs of contamination such as stained soils or detectable groundwater impacts were identified in the vicinity of the tank farm. Based on the tank closure results, the Palm Beach County Department of Environmental Resources Management (ERM) approved the tank closure on July 15, 1992.

Atlantic Growers was also listed as being located approximately 1,500 feet southwest of the subject property, south of the Rancho de Macho Grande property. A subsurface assessment was conducted on that property (Environmental Petroleum & Remediation Services, October 14, 1991) as part of the removal of two underground storage tanks. Elevated petroleum constituents were identified in soils and groundwater in the vicinity of the tank farm. A discharge reporting form was filed on August 28, 1991 as a result of the soil and groundwater impacts. A Contamination Assessment Report was conducted by US Environmental Group however groundwater results from the perimeter of the tank farm area did not exhibit detectable concentrations of petroleum constituents. On October 23, 1992 the Palm Beach County ERM approved the site's No Further Action Status. On November 2, 1992 the FDEP approved the sites No Further Action Status.

URS reviewed the Orphan Sites list, which are sites that have not been plotted due to poor or inadequate address information. None of the facilities on the Orphans Sites list appear to have the potential to create an environmental concern on the subject property.

6.2 Regulatory Agency Contacts

The following regulatory agencies were contacted for additional information pertaining to the current and historical activities conducted on the subject property, including any permits, known contamination, or other environmental concerns with respect to the subject property or immediate vicinity.

Palm Beach County ERM File Review

The Palm Beach County Department of Environmental Resources Management was contacted for the review of storage tank files pertaining to the subject property and vicinity. A summary of the information obtained is provided in Section 5.1.

Palm Beach Soil and Water Conservation District, Farm Service Agency, and Natural Resources Conservation Services

Representatives of the Conservation District indicated that Brookside Farms is not required to maintain a permit with these agencies.

Florida Department of Agriculture

The Brookside Tree Farm is registered with the Florida Department of Agriculture as a Limited Partnership under registration number 04718495. The site is a registered tree nursery with permit issued December 31, 2001 and scheduled for expiration of February 14, 2003.

Palm Beach County Governmental Offices

According to the Palm Beach County Tax Collector office, two occupational permits (1996-2262 and 1996-2263) are maintained by Tropical Growers International, operators of Brookside Farms. The permits indicate that the nature of the business are landscaping and nursery wholesale.

Solid Waste Authority

The Solid Waste Authority (SWA) maintains a database of known solid waste sites within Palm Beach County. The Inventory of Palm Beach County Solid Waste Sites (2000 edition) was reviewed to identify sites within a one mile radius of the subject property. Based on the review, one solid waste site, the Basso Airport Southern Crop Services, is located approximately three quarters of a mile southeast of the subject property. This solid waste site was opened in 1963 and was scheduled for cleanup by 1988. Items reportedly disposed of at the site included chemical mixing & tank rinsates soaked with pesticides. Site contamination includes toxaphene, DDT and chlordane. Based on the regional groundwater direction flow of south easterly, this site is downgradient from the Brookside Farms property. It is therefore URS' opinion that the Basso Airport Southern Crop Services site does not pose a potential to adversely impact site conditions.

Additional solid waste sites identified approximately 1.25 miles from the subject property included the Amerigrow Farms (yardwaste, vegetative waste, and sludge disposal), the Bestway Recycling Center (inadequate process and disposal of yardwaste and vegetative wastes, site purchased by Amerigrow Farms and cleared) and EMG Sludge disposal site (sludge, land application) all located to the southwest, as well as the Corbett Farms (abandoned barn used to store drums, site cleaned 1982) located to the northeast. Based on their distances from the subject property and the southeasterly groundwater direction flow, it is URS' opinion that the Basso Airport Southern Crop Services site does not pose a potential to adversely impact site conditions.

7.0 FINDINGS

URS conducted a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E 1527-00 at the approximately 80 acres Brookside Farms property located at 288-Z Smith Sundry Road, Delray Beach (subject property). The subject property is located in western Delray Beach, east of Smith Sundry Road, in Palm Beach County, Florida. The subject property was historically utilized for row crops from at least 1968 and prior to 1973. In 1973 a lake was constructed on the western portion of the property, and agricultural use on this portion of the property had ceased. By 1981 the lake was divided into two lakes and an elongated lake constructed in between the two lakes. The elongated lake and the western most lake were filled by 1984, and the property was being utilized as a tree or nursery farm.

The site maintains an Occupational Permit with Palm Beach County (permit years and numbers are 1996-2262 and 1996-2263). Review of the Palm Beach County Tax Collector Occupational License website indicated that the permits are active and registered to Tropical Growers International as a landscaping and nursery wholesale. The Brookside Farms operates under a Florida Department of Agriculture permit (nursery registration number 04718495).

At the time of the Phase I ESA, the Brookside Farms Property was considered agricultural lands and partially utilized as both an in-ground and containerized tree farm. Currently the subject property is a landscape tree and nursery farm. Historical areas of inground ornamental plants total approximately 70 percent of the property. Aboveground containerized plant areas total approximately 25 percent of the property. The remaining property areas are used for trailer and site maintenance facilities.

A 'T' shaped trailer located on the southwestern portion of the property is utilized as an office unit for the tenant Transportation Safety. Several traffic lampposts were located to the east of the trailer and two portable storage containers were located north of the trailer and access road.

An open-air canopy with a concrete floor adjoins the eastern portion of the trailer. Items observed staged on the concrete floor included one engine, one motor, bottles of motor oil, one approximately 150-gallon plastic agricultural use aboveground storage tank, metal beams, plastic cones and street signs. Minor amounts of surficial staining were noted on top of the concrete pad.

A small former pump house with two rooms was located immediately south of the trailer. A water filtration unit was located in the western room of the pump house. The well associated with the unit is located on the southern side of the pump house. The potable well is reported to be active and servicing the trailer.

An abandoned automotive flatbed hitch and trailer were located immediately south of the pump house. To the east of the pump house is a large concrete pad, which may have been the foundation for a structure. An abandoned trailer was located east of the concrete pad.

One curved-triangular shaped lake is located on the northwestern portion of the property. Based on the review of historical aerial photographs, the lake was the easternmost of three former lakes. The westernmost curved-triangular and central rectangular shaped lakes were backfilled with buried solid wastes. At the time of the site reconnaissance, the area was overgrown.

An inactive irrigation pump station consisting of a two foot diameter pipe extending into the canal to the south, a shed, and a diesel motor is located northeast of the former dump area and adjoining canal, along the northern property boundary. An AST was not observed located near the irrigation pump station. Solid wastes, including used tires and empty 55-gallon drums, were observed scattered in the overgrown area east of the pump station. One electrical irrigation pump station is located on the northern portion of the property, east of the inactive irrigation pump station.

An overgrown solid waste stockpile was observed on the northeastern portion of the property. Excavations of the stockpile during Phase II ESA activities indicated that the stockpile consisted of vegetative wastes mixed with soil.

A barn and several current and former shade houses were observed on the southeastern portion of the property. The barn consists of two storage areas and an open-air canopy area on the eastern portion of the barn. The storage areas were utilized as an office and to store vehicular repair items and fluids. Additional agrochemicals were stored throughout the eastern storage area. The open air canopy was utilized for the storage of farm equipment and machines, as well as numerous 50 pound bags of agrochemicals, some of which were labeled organic release nitrogen, fertilizer, and magnesium sulfate.

Adjoining the barn to the east is an abandoned shade house. Some solid wastes (spades, tires, containers and agricultural supplies) were observed on the western portion of the shadehouse, adjacent to the canopy. To the west of barn, across the dirt access road is another shade house, which has a concrete equipment staging area on the southeastern most corner of the shade house. The interior space of the shadehouse was utilized for growing containerized plants.

North of the barn is an equipment/supply area which was historically used as a shade house. Just west of the central portion of the remnant shadehouse wall is an approximately 500 gallon AST, which was historically reported to contain diesel fuel. The tank was not connected to any dispensers and appeared to be out of use. An approximately 500 gallon agricultural nurse tank was also observed staged within this

area. The AST and nurse tanks were empty of contents at the time of the Phase I ESA. Additional items staged within this area included abandoned farm equipment and motors, bags of agricultural landscaping supplies such as mulch, wooden crates used to transport supplies, and miscellaneous solid wastes.

Northwest of the barn is a solid waste debris stockpile area measuring approximately 125 feet long by 50 feet wide by 15 feet high. Items observed within the stockpile consisted primarily of tree limbs and vegetative wastes.

North of the debris stockpile and main across the dirt access road, the foundation poles of the largest of the former shade houses was observed. The area within this shade house appears overgrown and was primarily utilized for container grown plants. The area due east of this shade house was an open-air area that was actively utilized for cultivating containerized plants.

Irrigation and temporary monitor wells were observed in the barn area and scattered throughout the subject property. Temporary monitor wells observed were associated with historical Phase II ESA investigations. There is one active potable well in the pump house and two irrigation wells onsite. One irrigation well is located on the northwestern portion of the property, north of the onsite lake. A second irrigation well is located by the shade house in the barn area. One former potable well, which serviced the office attached to the barn, is located on the southern side of the barn and is reportedly out of service.

An asbestos survey was not part of the scope of work for the Phase I ESA. However, based on the age of the onsite barn, there is a potential that asbestos containing materials may have been used in its construction.

A list of current and historical agrochemicals, which were historically utilized on the Brookside Farms property, included a total of 11 agrochemicals of which Roundup was reported to be the only agrochemical currently in use. At the time of the Phase I ESA, numerous 50 pound bags of agrochemicals, some labeled organic slow release nitrogen, fertilizer, and magnesium sulfate, were staged within the barn canopy area. None of the agrochemicals provided on the Brookside Farms list were identified on the US EPA's List of Pesticides Banned and Severely Restricted in the USA.

An EDR database search conducted identified two sites in the vicinity of the subject property. Based on the review of documentation regarding each property and their proximity to the subject property, it is URS' opinion that the sites do not pose a potential to adversely impact site conditions. However, neighboring agricultural land use sites, which includes the onsite regulation of groundwater and shared groundwater discharge canals, may pose a potential environmental concern to the subject property.

Based on the results of the Phase I ESA, including the review of historical aerial photographs, environmental reports, contacts with regulatory agencies, and observations made during the site reconnaissance, URS has identified the following nine areas of concern

Area B-1 Barn/AST Area

Area B-1-1 – Barn Area

Area B-1-2 – Aboveground Storage Tank Area

Area B-2 Pump Stations

Area B-2-1 – Former Pump House

Area B-2-2 – Irrigation Pump Station

Area B-3 Solid Waste

Area B-3-1 – Stockpiled Solid Waste

Area B-3-2 – Former Dump Area
Area B-3-3 – Current and Former Lakes Area

Area B-4 Cultivated Crop Area

Area B-4-1 – Current Areas of Cultivated Crop
Area B-4-2 – Historical Crop Cultivation Areas

8.0 CONCLUSIONS AND RECOMMENDATIONS

The results of the Phase I ESA has identified nine areas of environmental concern on the Brookside Farms property. In January 2002 URS conducted a Phase II ESA of the property, which included an evaluation of seven of the nine areas of concern. Based on the compiled results of the Phase I ESA and the historic Phase II ESA, the following is a summary of URS' conclusions and recommendations for the Brookside Farms property.

Area B-1 Barn/AST Area

Area B-1-1 – Barn Area

Historical samples collected from the barn area had identified elevated concentrations of arsenic in soils. A total of 16 soil samples were collected within this area. Arsenic exceeded the SCTL in two of the 16 soil samples. Arsenic was detected in the groundwater samples at the barn below the GCTL. URS recommends that a limited site assessment be conducted for soil impacts in the vicinity of the barn.

Additionally, based on the age of the onsite barn, it is recommended that an asbestos survey be conducted to evaluate the building materials for asbestos containing materials.

Area B-1-2 – Aboveground Storage Tank Area

Soil samples collected from this area was below detectable concentrations for all analyzed parameters. Based on the results of the Phase II ESA, it is URS' opinion that no further actions are warranted at the AST areas.

Area B-2 Pump Stations

Area B-2-1 – Former Pump House

Soil results were not indicative of petroleum impacted soils. No soil sample was submitted for analysis from this area. Based on the results of the Phase II ESA, it is URS' opinion that no further actions are warranted at the former pump house.

Area B-2-2 – Irrigation Pump Station

Soil sample collected from this area did not exhibit detectable concentrations of petroleum constituents. Based on the results of the Phase II ESA, it is URS' opinion that no further actions are warranted at the irrigation pump station. However, prior to the purchase of the subject property, the irrigation pump station should be properly closed out.

Area B-3 Solid Waste

Area B-3-1 – Stockpiled Solid Waste

A solid waste stockpile of approximately 125 feet long by 50 feet wide by 15 feet high of solid wastes was observed north of the barn. Test trenches excavated into the stockpile during the Phase II ESA identified concrete, construction debris, and tree limbs. It is URS' opinion that the solid wastes identified

during the Phase II ESA should be confirmed and quantified.

Area B-3-2 – Former Dump Area

Minimal quantities of small debris were encountered scattered throughout test trenches excavated during Phase II ESA activities at the former dump area. It is URS' opinion that these solid wastes do not require removal prior to purchasing the subject property.

Area B-3-3 – Current and Former Lakes Area

Two historical and one current lakes have been associated with the subject property. The current lake has been partially backfilled and is smaller than its original size. Excavations conducted as part of Phase II ESA activities have identified buried solid wastes within the lakes area. Solid wastes were observed in an area estimated at greater than 1,000 yards in Area B-3-1 (terracotta, glass, wood, tree limbs, and concrete) and 100 yards in Area B-3-2 (concrete, construction debris and tree limbs). Buried solid wastes were encountered at Area B-3-3 consisting of small pieces of terracotta, glass, wood, tree limbs, bottles, metal pipe pieces, rebar, and concrete were identified in the perimeter of existing lake (500 cubic yards), the former central elongated lake (12,750 cubic yards), and the former western lake (12,300 cubic yards).

It should be noted that subject property is considered agricultural land. As such, exemptions may exist regarding allowable land use practices, including regulations concerning the dumping of solid wastes onsite. The FDEP may require closure activities of the site as an unregulated dump, including analysis of soil and groundwater within the dump area. Classification of the site as a dump may require additional activities to close the dump or to obtain a permit to construct a permanent structure on top of a dump.

URS recommends that the FDEP be notified of the buried solid wastes. The FDEP, under the Florida Administrative Code Chapter 62-701 Solid Waste Management Facilities, regulates activities relating to both registered and unregistered dumpsites.

Area B-4 Cultivated Areas

Based on the review of historical site documentation, no sampling of the current and/or former cultivated areas (Area B-4-1 and B-4-2) has been conducted to date. In order to evaluate the potential presence of agrochemicals that were historically used onsite, URS recommends the collection of soil and groundwater samples from the cultivated areas of the property. The assessment should include evaluating arsenic and pesticides concentrations that may have been used historically on the property.

9.0 REFERENCES

Nutting Environmental, Inc., Phase I Environmental Property Assessment Report, June 23, 1997

Nutting Environmental, Inc., Phase II Environmental Property Assessment Report, June 30, 1997

URS Corporation, Phase II Environmental Site Assessment, January 11, 2002

2002 Farm Chemicals Handbook

The United States Geological Survey, 7.5-minute series, " *University Park*", Quadrangle maps reference year 1962, photorevised 1969.

URS



**Limited Phase II Environmental Site Assessment
Brookside Tree Farm
288-Z Smith Sundry Road
Delray Beach
Palm Beach County, Florida**

Prepared for:

**Palm Beach County
FD&O Facilities Compliance Section
3323 Belvedere Road, Building 503
West Palm Beach, Florida 33401**

Job No.: 46740-011-024

7800 Congress Avenue, Suite 200, Boca Raton, Florida 33487

April 3, 2003



April 3, 2003

Ms. Melanie M. Borkowski, Manager
Palm Beach County
FD&O Facilities Compliance Section
3323 Belvedere Road, Building 503
West Palm Beach, FL 33406

**Re: Limited Phase II Environmental Site Assessment
Brookside Tree Farm
288-Z Smith Sundy Road,
Delray Beach, Palm Beach County, Florida
URS Job# 46740-011-024**

Dear Ms. Borkowski:

Attached please find four copy of URS Corporation's Limited Phase II Environmental Site Assessment (ESA) for the above referenced location. The Phase II ESA has been conducted in accordance with URS' March 5, 2003 revised proposal to Palm Beach County. URS appreciates the opportunity to work with the Palm Beach County Facilities Development and Operations on this project. If you have any questions concerning this report or need additional information about this project please contact URS at your convenience.

Sincerely,
URS Corporation

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1.0 INTRODUCTION

URS Corporation (URS) is pleased to present this Limited Phase II Environmental Site Assessment (ESA) detailing field activities conducted at the approximately 80 acre Brookside Tree Farm property located at 288-Z Smith Sundry Road, Delray Beach, Florida. The Brookside Farms Property consists of overgrown and unmaintained agricultural lands, which are partially utilized as both an in-ground and containerized nursery and tree farm. The subject property was historically utilized for row crops from at least 1968 and prior to 1978. It is URS understanding that the subject property will continue to be utilized for agricultural purposes. A General Site Vicinity Map is provided as **Figure 1**. An aerial photograph of the site and vicinity is provided as **Figure 2**.

URS conducted a Phase I ESA (February 11, 2003) of the Brookside Tree Farm property, which identified seven areas of concern, including the area of buried solid wastes (Area B-3-3 – Current and Former Lakes Area) which is located on the western portion of the property, and the current/historically cultivated lands (Area B-4 Cultivated Areas), located throughout the property. This Limited Phase II ESA has been conducted at the request of the Palm Beach County Facilities Development & Operations Department and in accordance with URS' March 5, 2003 revised proposal.

2.0 BACKGROUND INFORMATION

The Brookside Tree Farm property has been utilized for agricultural since at least 1968, when row crops were grown. Between 1973 and 1978 the western part of the property was used as an equestrian farm and row crop farming appeared to have ceased on the eastern portion of the property. Between 1981 and 1984, nursery and tree farming began on the entire property.

Prior to 1973 a rectangular lake was constructed in the center of the equestrian track, and prior to 1981 the lake was reconfigured into three lakes. By 1984 two of the three lakes had been backfilled. Currently, the Brookside Tree Farm property is utilized as both an in-ground and containerized tree farm. In ground ornamental plants are cultivated on approximately 70 percent of the property. Aboveground containerized plant areas total approximately 25 percent of the property.

Nutting Environmental conducted a Phase I ESA (June 23, 1997) and Phase II ESA (June 30, 1997) of the Brookside Farms property which identified seven areas of concern, including the potential for unsuitable backfill material in the current and former lakes area, and the potential for accumulation of agrochemicals in the cultivated areas. During the Phase II ESA, Nutting excavated test pits in the area of the former lakes. Debris encountered included concrete, metal, wood, plastic and household trash.

URS conducted a follow-up Phase II ESA of the Brookside Farms Property (January 8, 2002) for the School District of Palm Beach County, Florida to evaluate seven historical areas of concern. As part of URS' assessment, historical aerial photographs of the subject property were reviewed. Review of the 1973 aerial photograph showed a rectangular shaped lake, measuring 400 feet long by 160 feet wide, present in the western portion of the property. An elliptical equestrian track had been constructed around the lake. The 1981 photograph showed the central portion of the lake had been filled and a 760 foot long by 45 foot wide, elongated rectangular shaped lake was present transecting the existing lake in the part that had been filled, thereby creating three individual lakes. By 1984 the elongated rectangular lake and the western most lake had been filled, and the subject property was being utilized as a nursery and tree farm. The current configuration of the eastern most lake indicates that the outer portions were also backfilled.

As part of the follow-up Phase II ESA, URS excavated test trenches and test pits in the former lakes area, referred to as Area B-3-3, to evaluate the extent of buried debris and to identify the boundaries of the lakes.

Solid wastes observed consisted of small pieces of terracotta, glass, wood, tree limbs, bottles, metal pipe pieces, rebar, and concrete construction debris. No soil samples were collected from the excavated areas as part of Phase II ESA activities, nor from the current or former cultivated areas, Area B-4-1 and B-4-2.

3.0 SITE DESCRIPTION

The Brookside Tree Farm property is partially utilized as both an in-ground and containerized nursery and tree farm with over 70 percent of the property utilized for nursery purposes. In ground plants are primarily palms and woody ornamental vegetation. Aboveground containerized plants included foliage plants. The property was used for agriculture prior to 1968 and up to 1973. Historical crops included vegetable row crops such as tomatoes or peppers. Between 1973 and 1981, equestrian activities were also conducted on the subject property.

One curved-triangular shaped lake is located on the northwestern portion of the property (Area B-3-3). Based on the review of historical aerial photographs, the lake was the easternmost of three former lakes. The westernmost curved-triangular and central rectangular shaped lakes were backfilled with solid wastes. At the time of the site reconnaissance, the area was overgrown and had been formerly utilized for the cultivation of in ground and containerized trees. The current lake appears smaller than its original size.

To the north and east of the property entrance buildings are overgrown agricultural lands (Area B-4). Based on visual observations, in ground trees were cultivated in this area and immediately east of the trailer. Additional areas on the central, eastern, and southern portions of the property were utilized for the cultivation of in ground plants. Containerized plants were cultivated on the western and central portions of the property.

Other pertinent site features include a trailer utilized as an office unit for the tenant Transportation Safety, a potable water pump house, an abandoned trailer and flatbed truck, an abandoned pump station, three electrical irrigation pump stations, two solid waste stockpiles, four current and former shade houses, an abandoned 500 gallon aboveground storage tank, a former dump, and a canopied barn and chemical storage area.

4.0 OBJECTIVE AND SCOPE

The Phase II ESA activities were based on the results of URS' Phase I ESA dated February 11, 2003. The objective of the Limited Phase II ESA was to further evaluate Area B-3-3 – Current and Former Lakes Area and Area B-4 Cultivated Areas for the potential presence of adverse environmental impacts as a result of past or current farming practices and land use. The assessment was conducted by collecting soil samples for field screening and laboratory analysis, installing groundwater monitoring wells, collecting groundwater samples for laboratory analysis, collecting sediment samples, and evaluating the collected field and analytical data. **Figure 3** illustrates the locations of Areas B-3-3 and B-4.

5.0 CONSTITUENTS OF POTENTIAL CONCERN

Two primary groups of Constituents of Potential Concern (COPCs) were identified to have the potential to impact soil and groundwater quality at the site. These include agrochemicals and metals to address concerns from the former cultivated areas, and the Priority Pollutant Parameters due to the unknown nature of the material used to backfill the former lakes.

5.1 PRIORITY POLLUTANT PARAMETERS

Historical assessments which included subsurface evaluations of the former onsite lakes have identified solid wastes utilized in the backfilling of the lakes. To evaluate potential environmental impacts associated with the

backfill material, soil and groundwater samples from Area B-3-3 were analyzed for the following.

- Chlorinated Pesticides (EPA Methodology 8081),
- Purgeable Volatile Organic Compounds (EPA Methodology 8260),
- Semi-Volatile Organic Compounds (EPA Methodology 8270),
- 13 Priority Pollutant Metals (Antimony, Arsenic, Beryllium, Cadmium, Chromium, Copper, Lead, Mercury, Nickel, Selenium, Silver, Thallium, Zinc)

5.2 AGROCHEMICALS AND METALS

A list of agrochemical herbicides, pesticides, and metals was used to evaluate the potential presence of accumulated concentrations of agrochemicals within historically and current cultivated areas. In Area B-4, soil, groundwater and sediments samples were collected and analyzed for one or more of the following.

- Chlorinated Pesticides (EPA Methodology 8081),
- Organophosphorus Pesticides (EPA Methodology 8141),
- Herbicides (EPA Methodology 8151),
- 8 RCRA Metals (Arsenic, Barium, Cadmium, Chromium, Lead, Mercury, Selenium, Silver) plus Copper.

5.3 APPLICABLE REGULATORY STANDARDS

The Brookside Tree Farm is currently a commercial nursery and tree farm. Palm Beach County is considering this property for inclusion in the Western Agricultural Reserve and the land use will remain the same, therefore soil and sediment analytical results were compared to the FAC Chapter 62-777 Soil Cleanup Target Level (SCTL) Industrial/Commercial standard. The sediment samples were also compared to Threshold Effect Concentrations (TEC) and Probable Effect Concentrations (PEC) as described in Table 4 of *Development and Evaluation of Consensus-Based Sediment Quality Guidelines for Freshwater Ecosystems*, published by MacDonald Environmental Sciences, Ltd. for the FDEP in 2000.

Constituents detected in the groundwater at the site were evaluated using the Groundwater and Surface Water Cleanup Target Level (GCTL) defined in FAC 62-777.

6.0 METHODOLOGY

The following section details the general field sampling methodology used for the collection of soil, groundwater and sediment samples during the Limited Phase II ESA. Samples were collected in accordance with URS' State approved Comp QA/QC plan with the exception that duplicate samples were not collected.

6.1 SOIL ASSESSMENT

A total of seven soil borings were advanced on the Brookside Tree Farm. Soil borings were advanced with a decontaminated stainless steel hand auger or split-spoon sampler by URS and EarthTech Drilling on March 5 and 6, 2003.

Area B-3-3 Current and Former Lakes Area

Three soil borings (SB-L1 through SB-L3) were advanced in the former lakes area, Area B-3-3. Boring SB-L1 was advanced on the northern portion of the central former lake. Boring SB-L2 was advanced on southern portion of the central former lake. Boring SB-L3 was advanced on the central portion of the western former lake. Borings were advanced to a maximum depth of 4 feet below land surface (BLS). The soil-groundwater interface was encountered at approximately 3.5 feet BLS. Solid wastes mixed with soil were encountered in all

three soil borings.

Area B-4 Cultivated Fields

Four soil borings (SB-C1 through SB-C4) were advanced in the historically and current cultivated areas, Area B-4. Boring SB-C1 was advanced on the western portion of the property, north of the office trailer. Boring SB-C2 was advanced on the central eastern portion of the property, in a former shade house. Boring SB-C3 was advanced on the eastern portion of the property cultivated fields. Boring SB-C4 was advanced on the western portion of the property cultivated fields. Borings were advanced to a maximum depth of 2 feet BLS.

6.1.1 SOIL VAPOR SURVEY

Area B-3-3 Current and Former Lakes Area

Soil samples were collected at two-foot intervals from each boring advanced in Area B-3-3. Samples were visually inspected and screened for petroleum vapors using an Organic Vapor Analyzer (OVA). Each soil sample was placed in a 16-ounce glass jar and sealed with aluminum foil. Field screening of the soil samples was performed using the headspace analysis technique as described in Florida Administrative Code (FAC) Chapter 62-770.200(2). During soil screening activities, both an unfiltered OVA reading and a carbon filtered OVA reading, used to filter out naturally occurring methane concentrations, were recorded and a net soil OVA reading determined by subtracting the filtered value from the unfiltered. A copy of the soil OVA log is provided in **Appendix A**.

Area B-4 Cultivated Fields

No soil samples collected from Area B-4 were evaluated for petroleum vapors using the OVA.

6.1.2 SOIL ANALYSIS

Area B-3-3 Current and Former Lakes Area

Based on the OVA readings, one soil sample from each boring which exhibited the highest OVA concentration (samples SB-L1 – 4 and SB-L3 – 4) was collected and submitted to Jupiter Environmental Laboratories for analysis of the Priority Pollutant Parameters (EPA Methods 8081, 8260 and 8270) and 13 Priority Pollutant Metals (antimony, arsenic, beryllium, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, thallium, and zinc). A copy of the soil laboratory analytical results and chain of custody records are provided in **Appendix B**.

Area B-4 Cultivated Fields

One soil sample was collected from each boring in Area B-4 and were submitted to Jupiter Environmental Laboratories for analysis by the agrochemical and metals COPC (EPA Methods 8081, 8141, 8151, and the 8 RCRA metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver) plus copper).

6.2 GROUNDWATER ASSESSMENT

A total of five 15-foot temporary monitor wells were installed on the Brookside Tree Farm on March 6, 2003 by EarthTech Drilling. Three monitor wells (TMW-L1 through TMW-L3) were installed in Area B-3-3 at the locations of the corresponding soil borings SB-L1 through SB-L3 respectively. Two monitor wells (TMW-C1 and TMW-C2) were installed in Area B-4, at the locations of soil borings SB-C1 and SB-C2 respectively. No additional monitor wells were installed as part of this Limited Phase II ESA.

6.2.1 MONITORING WELL INSTALLATION

Monitor wells TMW-L1 through TMW-L3, TMW-C1, and TMW-C2 were installed using a rotary, truck-

mounted drill rig and pre-cleaned, 8-inch diameter, hollow-stem continuous flight auger. A fully assembled, pre-cleaned monitor well comprised of 10-feet of 0.010-inch slot threaded 2-inch diameter, flush joint PVC well screen, and a five foot riser fitted with a locking cap was inserted inside the auger such that the top of the well screen was set approximately two feet above the water table and three feet of riser extended above the surrounding grade. A 6/20-grade silica sand pack was placed in the annular space between the well screen and the borehole wall, extending from the bottom of the well to a depth of approximately one-foot below grade. At one foot to 6 inches below grade the annular space was filled with a bentonite seal. The well was secured with an expandable locking cap. Following well completion, each monitor well was developed by pumping and surging for at least 20 minutes. A typical monitor well schematic diagram is provided in **Appendix C**.

6.2.2 GROUNDWATER SAMPLING AND ANALYSIS

Groundwater samples were collected from the Monitor Wells TMW-L1 through TMW-L3, TMW-C1, and TMW-C2 on March 7, 2003. Prior to purging the wells for sampling, the static fluid levels were measured in each well using an electronic water level detector. In order to purge the well and obtain a representative groundwater sample, the volume of water within each well was calculated. Each monitor well was then purged with a peristaltic pump with dedicated tubing. During purging, measurements of temperature, conductivity, dissolved oxygen, pH, and turbidity were continuously recorded. Upon stabilization of the field parameters or after at least 5 well volumes had been purged, groundwater samples were collected from the wells. The samples were collected using dedicated polyethylene tubing. Groundwater samples were placed in laboratory-supplied containers, which were then sealed, labeled, and immediately placed on ice. The samples were submitted to Jupiter Environmental Laboratories under chain of custody protocol for expedited analysis. A copy of the groundwater laboratory analytical results and chain of custody records are provided in **Appendix D**.

Area B-3-3 Current and Former Lakes Area

Groundwater samples from Monitor Wells TMW-L1 through TMW-L3 were submitted for analysis of the Priority Pollutant Parameters (EPA Methods 8081, 8260 and 8270) and Metals (antimony, arsenic, beryllium, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, thallium, and zinc).

Area B-4 Cultivated Fields

Groundwater samples from Monitor Wells TMW-C1 and TMW-C2 were submitted for analysis by EPA Methods 8081, 8141, 8151, and the 8 RCRA metals plus copper

6.3 SEDIMENT ASSESSMENT

Three sediment samples, SED-1, SED-2, and SED-3 were collected on March 5, 2003. Sediment sample SED-1 was collected from the center of the north-south drainage ditch located on the eastern portion of the property. Sample SED-2 was collected from the center of the north-south drainage ditch located on the western portion of the property. To evaluate the sediment quality of the existing lake, one sample (SED-3) was collected from the eastern portion of the lake bed. On March 10, 2003, an additional confirmation sediment sample, SED-1N, was collected north of sample SED-1.

Sediment samples were collected using a decontaminated stainless steel auger. The sediments were then transferred to a stainless steel bowl and thoroughly mixed with a stainless steel spoon. The sediment sample was placed in the appropriate container, placed on ice, and submitted under chain of custody procedure for analysis. Sediment samples SED-1, SED-2, and SED-3 were analyzed for the agrochemical and metals COPC (EPA Methods 8081, 8141, 8151, and the 8 RCRA metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver) plus copper). The confirmatory sediment sample, SED-1N was analyzed by EPA Method 8081 only. A copy of the sediment laboratory analytical results and chain of custody records are

provided in **Appendix B**.

7.0 PHASE II ASSESSMENT RESULTS

Seven soil samples, five groundwater samples and four sediment samples were collected throughout the Brookside Tree Farm as part of Phase II ESA activities. The results of Phase II ESA activities and samples are summarized in the following sections as well as in **Table 1 – Soil Organic Vapor Analysis Results**, **Table 2 – Soil Analytical Results**, **Table 3 Groundwater Analytical Results**, and **Table 4 – Sediment Analytical Results**. A copy of the chain of custody records and soil laboratory analytical reports are provided in **Appendix B**. A copy of the chain of custody records and groundwater laboratory analytical reports are provided in **Appendix D**. The sediment chain of custody and laboratory analytical reports are in **Appendix B**.

7.1 SOIL EVALUATION

7.1.1 AREA B-3-3 CURRENT AND FORMER LAKES AREA

To evaluate the backfill material used to fill the lakes in Area B-3-3, three soil borings (SB-L1 through SB-L3) were advanced within the former lakes area. Borings were advanced to a maximum depth of four feet (ft) BLS. Groundwater was encountered at approximately 3.5 ft BLS. Soil samples were collected from each boring on two-foot intervals from 0-2 ft and from 2 ft - 3.5 ft. The soils were visually inspected for staining and each soil sample was screened with an OVA. Soil OVA responses ranged from less than one part per million (ppm) in boring SB-L2 0-2 ft to 1,500 ppm SB-L1 at 2 ft - 3.5 ft. Soil boring locations and Net OVA Results are illustrated in **Figure 4**. A copy of the soil OVA log is included in **Appendix A**.

Three soil samples (SB-L1 - 3.5, SB-L1 – 3.5, and SB-L3 – 3.5) were collected from Area B-3-3 and submitted for analysis of the Priority Pollutant Parameters and 13 Priority Pollutant Metals. Low concentrations of arsenic, cadmium, chromium, copper, lead, and zinc were exhibited in one or more soil samples collected from Area B-3-3, below the applicable SCTL. Other soil metal concentrations and Priority Pollutant Parameter constituents were below detection limits (BDL). **Figure 5** illustrates the Area B-3-3 Soil Analytical Results.

7.1.2 AREA B-4 CULTIVATED AREAS

To evaluate the potential for the accumulation of agrochemicals within surficial soils in the cultivated areas, four soil borings (SB-C1 through SB-C4) were advanced in representative areas. Borings were advanced to a depth of two feet BLS. Soil samples submitted for analysis for the agrochemical and metals COPC (EPA Methods 8081, 8141, 8151, and the 8 RCRA metals plus copper).

Low concentrations of 4,4-DDD (1.00 micrograms per kilogram (ug/kg) and 6.3 ug/kg), 4,4-DDE (2.70 ug/kg and 31.0 ug/kg), and 4,4-DDT (2.10 ug/kg and 2.00 ug/kg) were exhibited in soil samples SB-C1 and SB-C2, below the SCTLs of 18,000 ug/kg, 13,000 ug/kg, and 13,000 ug/kg respectively. Sample SB-C2 also exhibited toxaphene (60.0 ug/kg) below the SCTL of 3,700 ug/kg. Soil samples SB-C3 and SB-C4 did not exhibit detectable concentrations of 4,4-DDD, 4,4-DDE, 4,4-DDT, or toxaphene. Low concentrations of arsenic, barium, cadmium, chromium, copper, and lead were exhibited in one or more of the soil samples collected, below the applicable SCTLs. Other soil EPA Method 8081, metal concentrations, and all constituents of EPA Methods 8141 and 8151 were BDL. **Figure 6** illustrates the Area B-4 Soil Boring Locations and Analytical Results. A copy of the soil laboratory analytical results and chain of custody records are provided in **Appendix B**.

7.2 GROUNDWATER EVALUATION

7.2.1 AREA B-3-3 CURRENT AND FORMER LAKES AREA

Three temporary groundwater monitoring wells (TMW-L1 through TMW-L3) were installed in Area B-3-3. The monitor wells were installed in the boreholes of soil samples SB-L1 through SB-L3 respectively. Groundwater samples were collected from each well and submitted for analysis of the Priority Pollutant Parameters and 13 Priority Pollutant Metals.

Low concentrations of arsenic, ranging from 11 micrograms per liter (ug/L) to 31 ug/L, and chromium, ranging from 18 ug/L to 19 ug/L, were exhibited in groundwater samples TMW-L1, TMW-L2, and TMW-L3, below the FAC Chapter 62-777 Groundwater Cleanup Target Level (GCTL) of 50 ug/L and 100 ug/L, respectively. Other groundwater metal concentrations and Priority Pollutant Parameter constituents were BDL in samples TMW-L1 through TMW-L3. **Figure 7** illustrates the Area B-3-3 Groundwater Analytical Results.

7.2.2 AREA B-4 CULTIVATED AREAS

Two temporary groundwater monitoring wells (TMW-C1 and TMW-C2) were installed in Area B-4, in the boreholes of soil samples SB-C1 and SB-C2 respectively. Groundwater samples were collected from each well and submitted for analysis for the agrochemical and metals COPC (EPA Methods 8081, 8141, 8151, and the 8 RCRA metals plus copper).

Low concentrations of arsenic, 11 ug/L and 4 ug/L, and barium, 47 ug/L and 31 ug/L, were exhibited in groundwater samples TMW-C1 and TMW-C2, below the GCTL of 50 ug/L and 2000 ug/L respectively. Other groundwater EPA Method 8081, metal concentrations, and all constituents of EPA Methods 8141 and 8151 were BDL in samples TMW-C1 and TMW-C2. **Figure 8** illustrates the Area B-4 Groundwater Analytical Results.

7.3 SEDIMENT EVALUATION

To further evaluate the potential for agrochemical accumulation and to supplement the results of soil samples, two sediment samples, SED-1, SED-2, were collected from interior drainage ditches. These ditches, which are oriented north to south are used to manage stormwater and irrigation water runoff. The sample SED-3 was collected from the lake sediment. Sediment samples were submitted for analysis of by EPA Methods 8081, 8141, 8151, and the 8 RCRA metals plus copper.

Concentrations of 4,4-DDD, 4,4-DDE, 4,4-DDT, arsenic, barium, cadmium, chromium, copper, and lead were detected in one or more sediment samples collected. None of the detected sediment sample concentrations were above the applicable SCTL. Other soil EPA Method 8081, metal concentrations, and constituents of EPA Methods 8141 and 8151 were BDL in sediment samples SED-1, SED-2, and SED-3. **Figure 9** illustrates the Sediment Sample Locations and Analytical Results.

Sediment sample results were also compared to the Sediment Quality Assessment Guidelines (SQAG) Threshold Effects Concentration (TEC) and Probable Effects Concentration (PEC). Sediment sample SED-1 exhibited concentrations of 4,4-DDD at 31.3 ug/kg, 4,4-DDE at 98.7 ug/kg, and 4,4-DDT at 4.76 ug/kg above the SQAG-TEC of 4.9 ug/kg, 3.2 ug/kg, and 4.2 ug/kg, respectively. The concentrations of 4,4-DDD and 4,4-DDE in sample SED-1 were also above the SQAG-PEC of 28 ug/kg and 31 ug/kg respectively. Sample SED-2 exhibited 4,4-DDE at 9.90 ug/kg above the SQAG-TEC but below the SQAG-PEC. Sample SED-2 also had detectable concentrations of 4,4-DDD below the SQAG-TEC. Sample SED-3 did not exhibit detectable concentrations of 4,4-DDD, 4,4-DDE or 4,4-DDT. Concentrations of the detected metals were below the

applicable SQAG-TECs.

To confirm the results of sediment sample SED-1, and evaluate the lateral extent of 4,4-DDD and DDE impacts, one additional sample (SED-1N) was collected north of sample SED-1, at the northern end of the drainage ditch, adjacent to the discharge point into the a larger east-west trending drainage ditch. Sample SED-1N was submitted for analysis by EPA Method 8081 only.

Sample SED-1N exhibited 4,4-DDE at 27.9 ug/kg above the SQAG-TEC but below the SQAG-PEC. The sample also exhibited detectable concentrations of 4,4-DDD (2.97 ug/kg) and 4,4-DDT (1.60 ug/kg) below the applicable SQAG-TECs. Other EPA Method 8081 constituents analyzed were BDL in sample SED-1N.

8.0 FINDINGS AND CONCLUSIONS

URS has conducted this Limited Phase II ESA of the approximately 80 acre Brookside Tree Farm property located at 288-Z Smith Sundry Road, Delray Beach, Florida, to further evaluate two areas (Area B-3-3 – Current and Former Lakes Area and Area B-4 Cultivated Areas) which were identified in URS' Phase I ESA, dated February 11, 2003. The property currently consists of overgrown and unmaintained agricultural lands, which are partially utilized as both an in-ground and containerized nursery and tree farm. The Limited Phase II ESA was conducted to evaluate the potential presence of adverse environmental impacts and included investigations of soil, groundwater, and sediments at the following two areas:

Area B-3-3 – Current and Former Lakes Area consists of an area of buried solid wastes on the western portion of the property. Area B-3-3 was historically utilized as an equestrian track with three lakes in its center. By 1984, two of the three lakes (the small western and rectangular center lakes) were backfilled and the remaining eastern lake was partially backfilled around its perimeter. Excavations into the backfilled lake beds were conducted as part of URS Phase II ESA (January 8, 2002) activities which identified buried solid wastes within the lakes area, including small pieces of terracotta, glass, wood, tree limbs, bottles, metal pipe pieces, rebar, and concrete construction debris. No soil samples were collected from the excavated areas as part of Phase II ESA activities.

Area B-4 Cultivated Areas are utilized as both an in-ground and containerized tree farm and was historically utilized for the cultivation of row crops such as tomatoes or peppers, and other vegetables. Based on the review of historical site documentation, no sampling of the current and/or former cultivated areas has been conducted to date.

Area B-3-3 Current and Former Lakes Area

Three soil borings (SB-L1 through SB-L3) were advanced within the former lakes area. Soils were in-field screened with an OVA on two foot intervals to the top of the soil-groundwater interface (approximately 3.5 ft BLS). Soil OVA responses ranged from less than one part per million (ppm) in boring SB-L2 0-2 ft to 1,500 ppm SB-L1 at 2 ft - 3.5 ft.

Three soil samples (SB-L1 - 3.5, SB-L1 – 3.5, and SB-L3 – 3.5) collected from Area B-3-3 exhibited low concentrations of arsenic, cadmium, chromium, copper, lead, and zinc in one or more soil samples, below the applicable SCTL. Other soil metal concentrations and Priority Pollutant Parameter constituents analyzed were BDL.

Three temporary groundwater monitoring wells (TMW-L1 through TMW-L3) were installed in the boreholes of soil samples SB-L1 through SB-L3, respectively. Low concentrations of arsenic and chromium were exhibited in groundwater samples collected from TMW-L1, TMW-L2, and TMW-L, below the applicable GCTLs. Other groundwater metal concentrations and Priority Pollutant Parameter constituents were BDL.

Area B-4 Cultivated Areas

Four soil borings (SB-C1 through SB-C4) were advanced in the historically and current cultivated areas at the Brookside Tree Farm. Low concentrations of 4,4-DDD, 4,4-DDE, and 4,4-DDT were exhibited in soil samples SB-C1 and SB-C2, below the applicable SCTLs. Sample SB-C2 also exhibited toxaphene below the applicable SCTL. Soil samples SB-3 and SB-4 did not exhibit detectable concentrations of 4,4-DDD, 4,4-DDE, 4,4-DDT, or toxaphene. Low concentrations of arsenic, barium, cadmium, chromium, copper, and lead were exhibited in one or more of the soil samples collected, below the applicable SCTLs. Other soil EPA Method 8081, metal concentrations, and parameters analyzed by EPA Methods 8141 and 8151 were BDL.

Two temporary groundwater monitoring wells (TMW-C1 and TMW-C2) were installed at the soil boring SB-C1 and SB-C2 locations, respectively. Low concentrations of arsenic and barium were exhibited in groundwater samples TMW-C1 and TMW-C2, below the applicable GCTL. Other groundwater EPA Method 8081, metal concentrations, and constituents analyzed by EPA Methods 8141 and 8151 were BDL.

Sediment Evaluation

Three sediment samples, SED-1, SED-2, and SED-3) were collected from the interior drainage ditches and the existing lake. Concentrations of 4,4-DDD, 4,4-DDE, 4,4-DDT, arsenic, barium, arsenic, barium, cadmium, chromium, copper, and lead were detected in samples SED-1 and SED-2, which were collected from the interior drainage ditches. None of the detected concentrations were above the applicable SCTL. Other EPA Method 8081 constituents, metal, and all constituents of EPA Methods 8141 and 8151 were BDL in sediment samples SED-1 and SED-2. The sediment sample, SED-3, collected from the lake, exhibited low levels of barium, chromium, copper and lead. No parameters analyzed by EPA Methods 8081, 8151 or 8141 were detected in this sample.

Sediment sample results were also compared to the SQAG TEC and PEC values. Sediment sample SED-1 exhibited concentrations of 4,4-DDD at 31.3 ug/kg, 4,4-DDE at 98.7 ug/kg, and 4,4-DDT at 4.76 ug/kg above the SQAG-TEC of 4.9 ug/kg, 3.2 ug/kg, and 4.2 ug/kg, respectively. The concentrations of 4,4-DDD and 4,4-DDE in sample SED-1 were also above the SQAG-PEC of 28 ug/kg and 31 ug/kg respectively. Sample SED-2 exhibited 4,4-DDE at 9.90 ug/kg above the SQAG-TEC but below the SQAG-PEC. Sample SED-2 also had detectable concentrations of 4,4-DDD below the SQAG-TEC. Concentrations of the detected metals were below the applicable SQAG-TECs.

To confirm the results of sediment sample SED-1, and evaluate the lateral extent of 4,4-DDD and 4,4-DDE, one additional sample, SED-1N, was collected north of sample SED-1, near the point where the drainage ditch discharged into a larger, east to west trending drainage ditch. This sample was submitted for analysis by EPA Method 8081 only. The sample SED-1N exhibited 4,4-DDE at 27.9 ug/kg above the SQAG-TEC but below the SQAG-PEC and the SCTLs. The sample also exhibited 2.97 ug/l 4,4-DDD and 1.60 ug/kg 4,4-DDT. These concentrations are below their respective SQAG-TECs. Other EPA Method 8081 parameters analyzed were BDL.

Based on the sediment sample results residual pesticides are locally present in sediment that has collected over the years in the interior portions of the drainage ditches are the result of erosion of soil from the former row and containerized crop areas. Some of the sediments may have concentrations above SQAGs, but these sediments are limited to the interior drainage ditches and unlikely to be transported offsite due to erosion. The drainage ditches are used to manage stormwater and irrigation water runoff and for most of the year the ditches are not filled with water. During the time when the drainage ditches are not filled with water and the material in the ditches are considered soil, the residual pesticide concentrations detected are below their respective SCTLs.

9.0 RECOMMENDATIONS

Based on the results of the Limited Phase II ESA, significant environmental impacts were not detected in soil, sediment, or groundwater collected at the areas identified as Area B-3-3, and Areas-4, on Brookside Tree Farm. It is therefore URS' opinion that, with continued use of the property for agricultural purposes, no additional assessment is warranted at these two areas this time.