

**PHASE II  
ENVIRONMENTAL SITE ASSESSMENT  
VACANT PARCEL  
630 WEST AMELIA AVENUE  
ORLANDO, ORANGE COUNTY, FLORIDA**

**Prepared for:**



**The City of Orlando  
Economic Development Department  
400 S. Orange Avenue  
Orlando, Florida, 32802-4990  
EPA Brownfield Cooperative Agreement BF-95498212**

**Prepared by:**

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**ECT No. 140644  
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## CONTENTS

1.0	SUMMARY.....	3
2.0	INTRODUCTION.....	3
2.1	Detailed Scope of Services .....	4
2.2	Limitations and Exceptions.....	4
2.3	User Reliance .....	5
3.0	SITE DESCRIPTION.....	5
3.1	Site Description and Features .....	5
3.2	Physical Setting.....	5
3.3	Site History and Land Use.....	5
3.4	Adjacent Property Land Use .....	6
3.5	Summary of Previous Assessment .....	6
4.0	WORK PERFORMED AND RATIONALE .....	6
4.1	Scope of Assessment.....	7
4.2	Exploration, Sampling, and Analytical Test Methods.....	7
4.3	Chemical Analytical Methods.....	7
4.4	Field Investigation Chronology .....	7
5.0	PRESENTATION AND EVALUATION OF RESULTS.....	8
5.1	Tables.....	8
5.2	Figures .....	8
5.3	Groundwater Quality .....	8
5.4	Groundwater Flow Direction .....	8
6.0	INTERPRETATION AND CONCLUSIONS.....	8
6.1	Recognized Environmental Condition / Potential Release Area.....	8
6.2	Conceptual Model Validation / Adequacy of Investigations.....	8
6.3	Absence, Presence, Degree, Extent of Target Analytes.....	9
6.4	Conclusions / Objectives Met.....	9
7.0	RECOMMENDATIONS.....	9
8.0	REFERENCES.....	10
9.0	SIGNATURE(S) OF ENVIRONMENTAL PROFESSIONAL(S) .....	11

## TABLES

- 1 Monitoring Well Construction Details
- 2 Groundwater Analytical Results
- 3 Groundwater Elevations

## FIGURES

- 1 Location Map
- 2 USGS Topographic Map
- 3 Site Plan
- 4 Monitoring Well Locations
- 5 Groundwater Quality Summary
- 6 Groundwater Elevations (10/16/2014)
- 7 Groundwater Elevations (12/10/2014)

## APPENDICES

- A Site eligibility determination outline
- B Site specific quality assurance project plan
- C Monitoring well construction logs, permits, and groundwater sampling logs
- D Groundwater laboratory analytical reports

## 1.0 SUMMARY

Environmental Consulting & Technology, Inc. (ECT) has completed this Phase II Environmental Site Assessment (ESA) for the former Orlando Arena parcel, located at 630 W. Amelia Avenue, Orlando, Orange County, Florida. The Site is currently vacant with no aboveground structures.

This Phase II ESA was conducted in conformance with the scope and limitations of the American Society for Testing and Materials (ASTM) Practice E1903-11 for Phase II ESAs. The objective of this Phase II ESA was to determine the presence, magnitude, and distribution of, groundwater impacts associated with two former United States Department of Agriculture (USDA) Bureau of Entomology laboratories identified on a Sanborn Fire Insurance Map dated 1919.

ECT installed five groundwater monitoring wells (MWs) to depths ranging from 20-35 feet below land surface (ft. bls) depending upon topography. Monitoring wells were constructed of 2-inch diameter polyvinyl chloride (PVC), with 10 feet of 0.006-inch slotted screen, variable lengths of solid riser (depending upon the depth of each MW), along with a 30/45 sand pack and flush-mounted eight-inch diameter steel manhole and concrete pad.

An exceedance of the arsenic groundwater cleanup target level (GCTL) was detected in the groundwater sample from MW-4. Other tested parameters were below the GCTLs.

ECT recommends that no additional assessment activities be completed at this time using money from EPA Brownfield Cooperative Agreement BF-95498212.

## 2.0 INTRODUCTION

ECT has completed this Phase II Environmental Site Assessment (ESA) for the former Orlando Arena parcel, located at 630 West Amelia Avenue, Orlando, Orange County, Florida. The Site is currently vacant with no aboveground or belowground structures. A Location Map is provided as **Figure 1**. A USGS Topographic Map, 1998, West Orlando, which includes the Site and the surrounding area, is provided as **Figure 2**. A Site Plan is provided as **Figure 3**.

A Phase II Site Eligibility Determination Outline was approved by the EPA Region 4 Project Manager for this Brownfield grant. A copy of this approved Site Eligibility Determination Outline is provided in **Appendix A**.

Prior to performing Phase II ESA on-site activities, a Site Specific Quality Assurance Project Plan (SSQAPP) was prepared in accordance with the requirements of EPA Region 4 Brownfields Program. The SSQAPP documented the necessary quality assurance (QA) and quality control (QC) criteria, and other technical activities that were implemented to ensure that the results of the Phase II ESA would satisfy the required performance criteria. A copy of the approved SSQAPP is provided in **Appendix B**.

This Phase II ESA was conducted in conformance with the scope and limitations of ASTM Practice E1903-11 for Phase II ESAs. Sample collection and related field methodologies were conducted in accordance with the Florida Department of Environmental Protection (FDEP) Standard Operating Procedures documents (DEP-SOP-001/01). Prior to collecting groundwater samples, field parameters (pH, conductivity, temperature, dissolved oxygen and turbidity) were measured using a multi-sensor probe and the values were recorded on sampling logs. After collection, groundwater samples were placed on ice and transported to a National Environmental Laboratory Accreditation Program (NELAP) certified laboratory with appropriate chain of custody documentation for analyses. Field activities were conducted under modified safety level D personal protective equipment (PPE) by environmental personnel trained in OSHA 1910.120.

The results of these field activities and laboratory analytical results are presented within this report.

## 2.1 Detailed Scope of Services

The Phase II ESA activities completed by ECT included, but was not limited to, the following services:

- Installation of five groundwater monitoring wells to determine groundwater quality and flow direction;
- Preparation of a written report documenting our activities and recommendations.

## 2.2 Limitations and Exceptions

The opinions presented in this report are based upon the scope of services, information obtained through the performance of the services, and the schedule as agreed upon by ECT and the party for whom this report was originally prepared. This report is an instrument of professional service and was prepared in accordance with the generally accepted standards and level of skill and care under similar conditions and circumstances established by the environmental consulting industry. No representation, warranty, or guarantee, expressed or implied, is intended or given. To the extent that ECT relied upon information prepared by other parties not under contract to ECT, ECT makes no representation as to the accuracy or completeness of such information. This report is expressly for the sole and exclusive use of the party for whom this report was originally prepared, and for a particular purpose. Only the party for whom this report was originally prepared and/or other specifically named parties have the right to make use of and rely upon this report. Reuse of this report or any portion thereof for other than its intended purpose, or if modified, or if used by third parties, shall be at the user's sole risk.

The findings presented in this report apply solely to the Site conditions existing at the time when the field activities were performed. Conditions in other parts of the Site may vary from those at the locations where data were collected. ECT's ability to interpret investigation results is related to the availability of the data and the extent of the investigation activities. ECT does not provide any guarantees, certifications, or warranties that a property is free from environmental contamination. Furthermore, nothing contained

in this document shall relieve any other party of its responsibility to abide by contract documents and applicable laws, codes, regulations, or standards.

**2.3 User Reliance**

This Phase II ESA Report was conducted for the use and reliance of the City of Orlando. No use of the information contained in this report by others is permissible without receiving prior written authorization to do so from ECT. ECT is not responsible for independent conclusions, opinions, or recommendations made by others or otherwise based on the findings presented in this report.

**3.0 SITE DESCRIPTION**

This section presents a general overview of the Site, onsite improvements, and surrounding properties.

**3.1 Site Description and Features**

The Site is currently vacant with no aboveground or belowground structures. The Site has an undulating surface, sparse vegetation, and is within the borders of the proposed Creative Village.

**3.2 Physical Setting**

The Site consists of one parcel of property within Section 26 of Township 22 South, and Range 29 East in Orlando, Orange County, Florida. The Orange County Property Appraiser’s Office information identifies the Site under the following parcel identification number, address, name, and legal description:

Parcel ID No.	Address	Owner	Acres
26-22-29-6326-00-010	630 W. Amelia Street	City of Orlando	8.72

**3.3 Site History and Land Use**

Site history and land use was investigated for the proposal prepared by ECT in September 2014 and summarized below:

**1919** – Sanborn Fire Insurance Map – Two USDA entomology laboratories are depicted, one on either side of Trenton Avenue.

**1925** – Sanborn Fire Insurance Map – Residential dwellings are depicted on either side of Trenton Avenue where the two former USDA entomology laboratories were located in the 1919 Sanborn Map.

**1950** – Sanborn Fire Insurance Map – Additional residential dwellings are depicted on either side of Trenton Street where the two former USDA entomology laboratories were located in the 1919 Sanborn Map.

**1956-1973** – Sanborn Fire Insurance Map – only minor changes from the 1950 Sanborn Map.

**1984** – Aerial Photograph – Residential dwellings are depicted on either side of Trenton Avenue where the two former USDA entomology laboratories were located in the 1919 Sanborn Map.

**1994** – Aerial Photograph – The residential dwellings have been replaced by the former Amway Arena (aka TD Waterhouse Arena).

**2014** – Aerial Photograph – the TD Waterhouse Arena has been demolished. The current use of the Site is vacant but planned for Creative Village, a 68-acre mixed-use, transit oriented, urban infill neighborhood in the heart of downtown Orlando.

### **3.4 Adjacent Property Land Use**

The Site is located in a developed area of Orlando, the Parramore Heritage District. Vacant land and surface parking areas are located to the north and south. Tennis courts at the Orlando Recreation Centre are located to the west. A parking garage is located to the east.

### **3.5 Summary of Previous Assessment**

No previous assessment reports were reviewed or provided by the City of Orlando.

## **4.0 WORK PERFORMED AND RATIONALE**

This Phase II ESA consisted of the completion and approval of a SSQAPP, a Health and Safety Plan (HASP), field activities consisting of groundwater monitoring well installation and sampling, and the preparation of this Report.

The rationale for performing this Phase II ESA was threefold:

1. To investigate the groundwater quality at the locations of the former USDA entomology laboratories;
2. To determine groundwater flow direction;
3. Provide groundwater quality information for future redevelopment activities.

## 4.1 Scope of Assessment

The scope of the Phase II ESA assessment included activities to evaluate the groundwater quality associated with the previous activities at the Site.

ECT installed five groundwater monitoring wells (MWs) to depths ranging from 20-35 feet below land surface (ft. bls) depending upon topography. Monitoring wells were constructed of 2-inch diameter polyvinyl chloride (PVC), with 10 feet of 0.006-inch slotted screen, variable lengths of solid riser (depending upon the depth of each MW), along with a 30/45 sand pack and flush-mounted eight-inch diameter steel manhole with a 2' x 2' concrete pad.

## 4.2 Exploration, Sampling, and Analytical Test Methods

Five MWs (designated MW-1 through MW-5) were completed using hollow-stem auger (HSA) techniques. Drill cuttings and development water was spread on-site near each respective MW.

Groundwater samples were collected using a peristaltic pump. Prior to sampling, field parameters (pH, conductivity, temperature, dissolved oxygen and turbidity) were measured using a multi-sensor probe and the values were recorded on sampling logs. After collection, the groundwater samples were placed on ice and transported to Accutest Laboratories, Southeast (Accutest), a National Environmental Laboratory Accreditation Program (NELAP) certified laboratory with appropriate chain of custody documentation for analyses.

Groundwater sampling activities were completed and documented in accordance with Chapter 62-160, Florida Administrative Code (F.A.C.) and FDEP standard operating procedures (DEP-SOP-001/01). Field activities were conducted under modified safety level D personal protective equipment (PPE) by environmental personnel trained in OSHA 1910.120. Monitoring well construction logs, permits, and groundwater sampling logs are provided in **Appendix C**.

## 4.3 Chemical Analytical Methods

The groundwater samples from MW-1 through MW-5 were analyzed for purgable aromatics using EPA Method SW846 8260B, herbicides using EPA Method SW846 8151A, priority pollutant pesticides using EPA Method SW846 8081B and 3510C, organophosphorous pesticides using EPA Method SW846 8141B and 3510C, and arsenic using EPA Method SW846 6010C.

## 4.4 Field Investigation Chronology

The following field investigation activities were conducted from October 13, 2014 through November 10, 2014:

- Monitoring well installation – October 13-14, 2014

- Groundwater sampling – October 16, 2014
- Monitoring well top of casing survey – November 10, 2014
- Monitoring well depth to water gauging – December 11, 2014

## **5.0 PRESENTATION AND EVALUATION OF RESULTS**

### **5.1 Tables**

Tables 1-3 present and summarize the field data and laboratory analytical reports obtained during this Phase II ESA. Groundwater laboratory reports are provided in **Appendix D**.

### **5.2 Figures**

Figures 4-7 depict the results of the field data and groundwater analytical results obtained during this Phase II ESA.

### **5.3 Groundwater Quality**

An exceedance of the groundwater cleanup target level (GCTL) for arsenic was detected in the groundwater sample from well MW-4. All other parameters tested were below their respective GCTL.

### **5.4 Groundwater Flow Direction**

Groundwater elevations were recorded on October 16 and December 10, 2014. Groundwater appears to be generally in a northeasterly direction, which is consistent with previous investigations at the Orlando Recreation Center.

## **6.0 INTERPRETATION AND CONCLUSIONS**

### **6.1 Recognized Environmental Condition / Potential Release Area**

This Phase II ESA investigated the groundwater quality associated with the two former USDA entomology laboratories.

### **6.2 Conceptual Model Validation / Adequacy of Investigations**

The conceptual model targeted the groundwater quality associated with the two former USDA entomology laboratories. The current investigation consisted of monitoring well installation, groundwater sampling, laboratory analyses and data evaluation to determine groundwater quality at the site.

The data set compiled was adequate to determine the presence or absence of groundwater impacts associated with the two former USDA entomology laboratories.

### 6.3 Absence, Presence, Degree, Extent of Target Analytes

Target analytes were selected based upon historical use and previously detected groundwater contaminants discovered at the Orlando Recreation Center. The observed target analyte concentrations were compared to applicable GCTLs. A summary of the results are provided in the table below:

Target Analyte	MW-1	MW-2	MW-3	MW-4	MW-5
Benzene	0.24U	0.24U	0.24U	0.36	0.24U
Toluene	0.20U	0.20U	0.27	0.87	0.20U
Ethyl benzene	0.28U	0.28U	0.71	1.6	0.28U
Total Xylenes	0.66U	0.66U	5.1	11.0	0.66U
MTBE	0.20U	0.20U	0.20U	0.20U	0.20U
Naphthalene	1.0U	1.0U	1.0U	1.0U	1.0U
Dieldrin	0.0064U	0.0064U	0.0064U	0.0064U	0.0064U
Arsenic	2.4U	2.4U	5.5I	<b>11.4</b>	2.4U
Beta-BHC	0.054	0.010U	0.010U	0.010U	0.010U
4,4'-DDE	0.018I	0.0096U	0.0096U	0.0096U	0.0096U
Endrin	0.032I	0.0067U	0.0067U	0.0067U	0.0067U
Heptachlorepoxyde	0.049	0.0069U	0.0069U	0.0069U	0.0069U
Pentachlorophenol	0.0044U	0.0044U	0.054I	0.047I	0.0044U

U = not detected

I = Result  $\geq$ MDL but  $<$ PQL

MDL = mean detection limit

PQL = practical quantitation limit

Bold = groundwater cleanup target level exceedance

### 6.4 Conclusions / Objectives Met

The goal of this Phase II ESA was to investigate the groundwater quality at the locations of the two former USDA entomology laboratories. The data set compiled was adequate to meet the objective of the Phase II investigation.

### 7.0 RECOMMENDATIONS

Exceedance of the arsenic GCTL was detected at MW-4. Future road extensions and/or redevelopment is proposed for this area. Groundwater treatment through dewatering or in-situ treatment, followed by natural attenuation may be a cost-effective and practical solution to address the groundwater exceedance of arsenic. No additional assessment activities are recommended at this time using money from EPA Brownfield Cooperative Agreement BF-95498212.

## 8.0 REFERENCES

Environmental Consulting & Technology, Inc., Phase I Environmental Site Assessment:  
Orlando Recreation Complex and Tennis Centre Parcel, November 2013.

Environmental Consulting & Technology, Inc., Phase II Environmental Site Assessment:  
Orlando Recreation Complex and Tennis Centre Parcel, August 2014.

Cardno TBE, Figures from Parramore BRT: provided by City of Orlando, June 2014.

Google Maps, 2014 Aerial photography review.

Orange County Property Appraisers Website.

## 9.0 SIGNATURE(S) OF ENVIRONMENTAL PROFESSIONAL(S)

ECT has completed this Phase II ESA for the parcel of property located at 630 W. Amelia Street, Orlando, Orange County, Florida, 32801. This Phase II ESA was conducted in conformance with the scope and limitations of American Society for Testing and Materials (ASTM) Practice E1903-11 and in accordance with the Terms and Conditions of Services Authorizations #IV and #VIII.

The objective of this Phase II ESA was to determine the presence, magnitude, and distribution of groundwater impacts, associated with two former USDA entomology laboratories identified during previous investigations.

Report Prepared By:



A handwritten signature in black ink, appearing to read "Jeff Peters", written over a horizontal line.

Jeffrey J. Peters, P.G.  
Principal Scientist  
Florida Registered Professional  
License Number 1593

Report Reviewed By:

A handwritten signature in blue ink, appearing to read "Kelly Eger-Smith", written over a horizontal line.

Kelly Eger-Smith, President  
American Environmental Consulting

**ENVIRONMENTAL CONSULTING & TECHNOLOGY, INC. (ECT)**  
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Orlando, FL 32803

Geology Business Authorization No. 42

## **TABLES**







## **FIGURES**

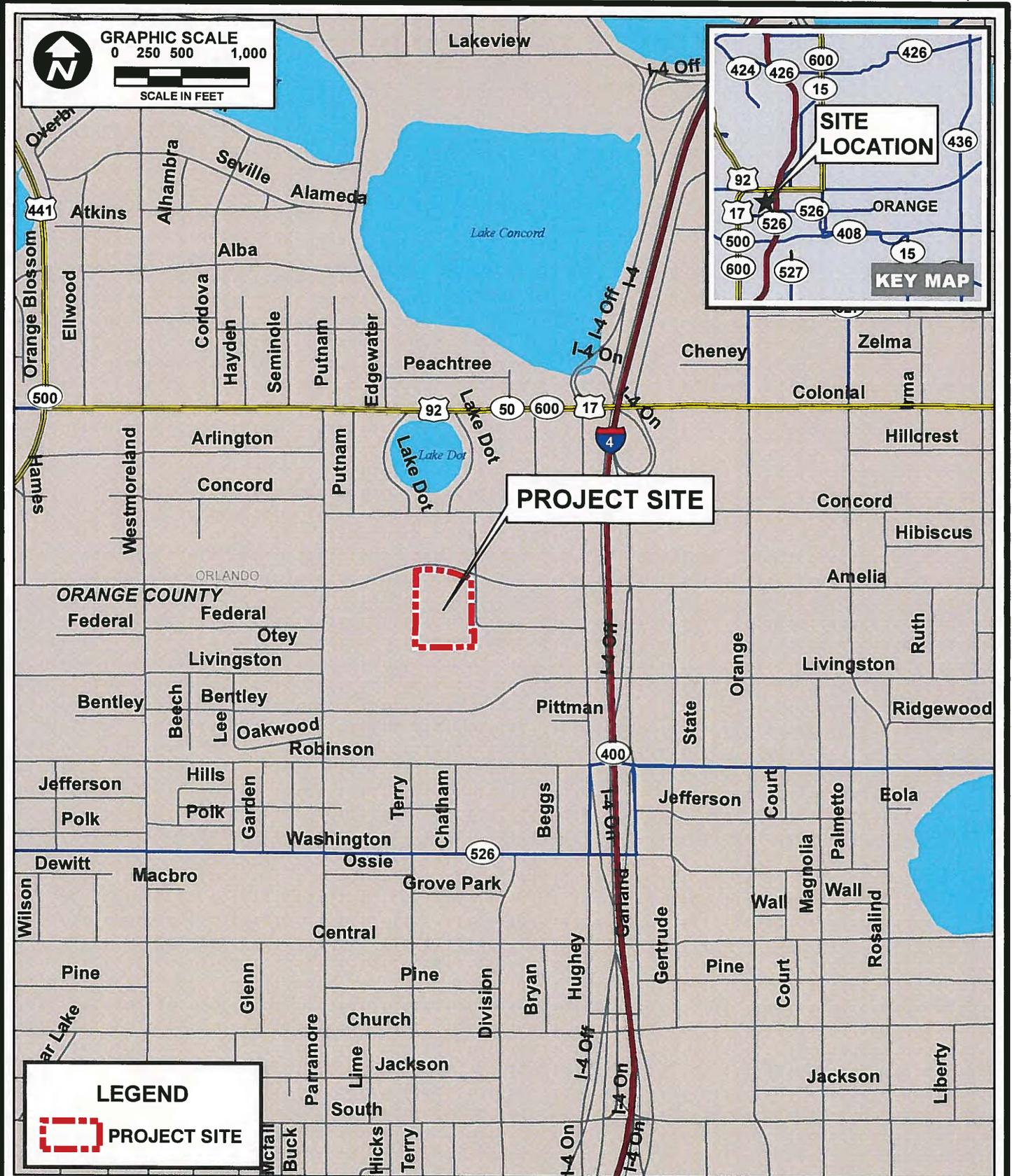


FIGURE 1.  
 LOCATION MAP  
 630 W AMELIA STREET, ORLANDO, FL 32801  
 SECTION 26, TOWNSHIP 22S, RANGE 29E

SOURCE: Various FGDL Sources; ECT, 2014.



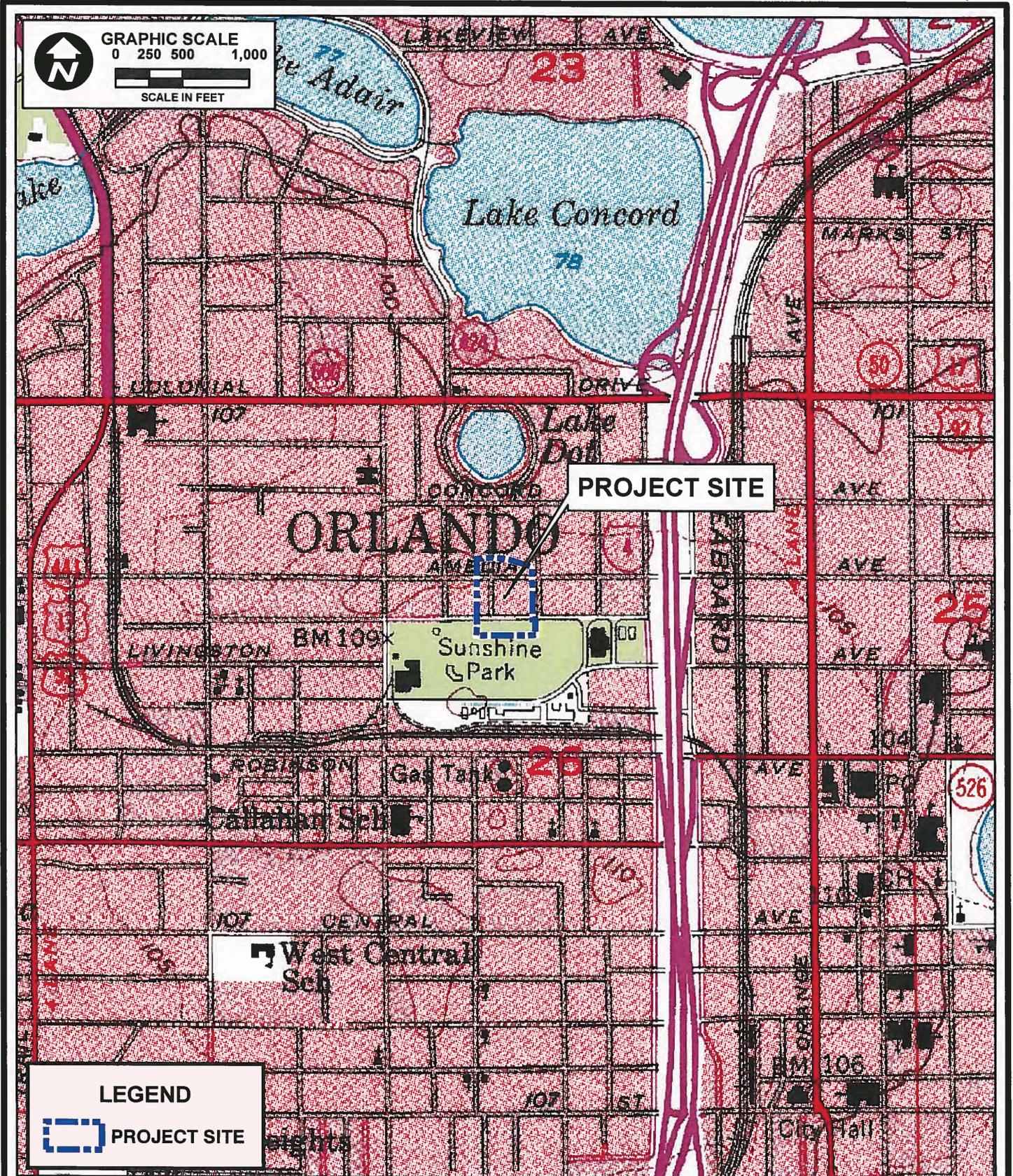
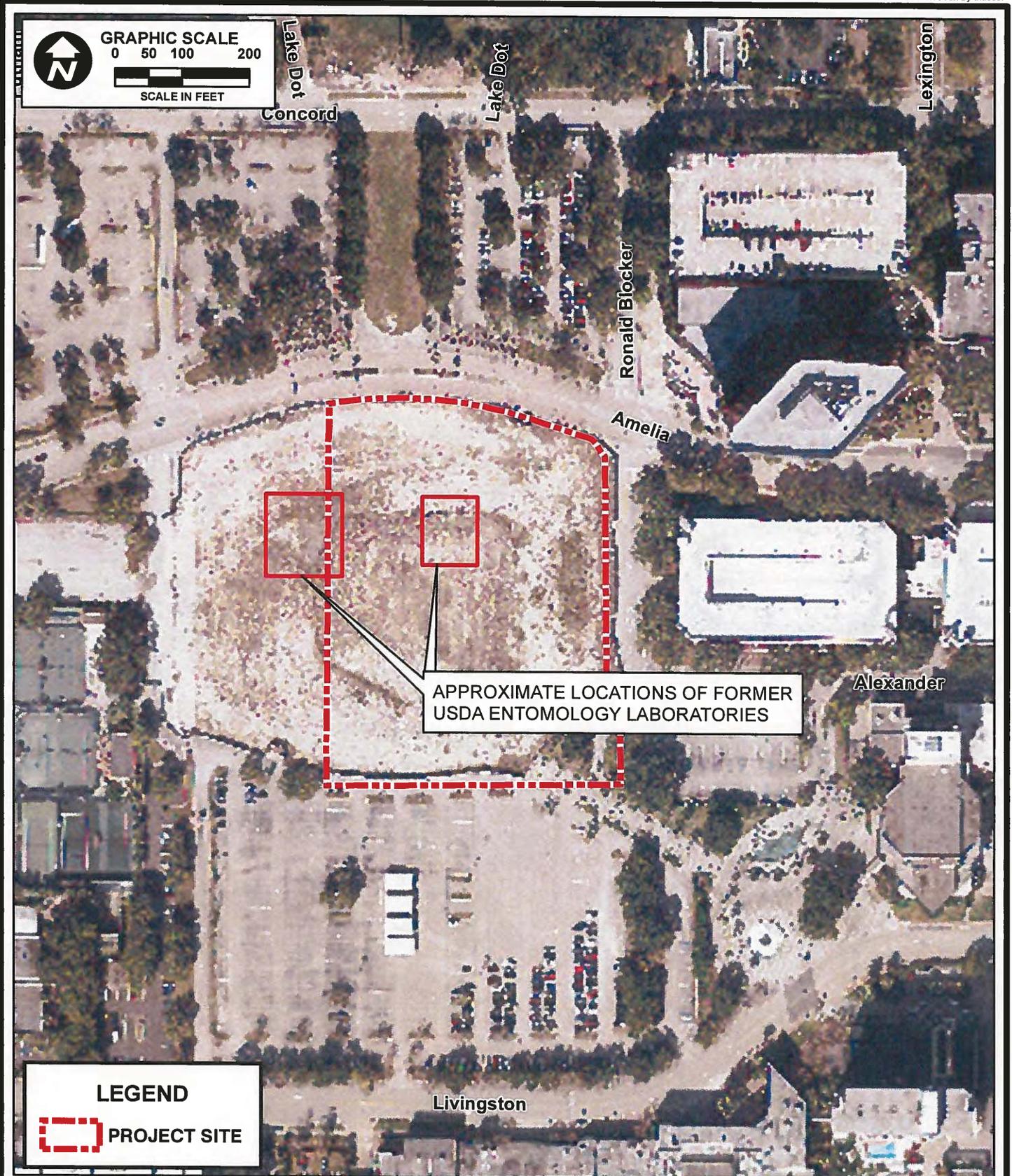


FIGURE 2.  
 USGS TOPOGRAPHIC MAP  
 630 W AMELIA STREET, ORLANDO, FL 32801  
 SECTION 26, TOWNSHIP 22S, RANGE 29E

SOURCE: LABINS, USGS QUAD 3712 ORLANDO WEST, 1980; ECT, 2014.





**FIGURE 3.**  
**SITE PLAN**  
 630 W AMELIA STREET, ORLANDO, FL 32801  
 SECTION 26, TOWNSHIP 22S, RANGE 29E

SOURCE: OCPA, 2014; ECT, 2014.



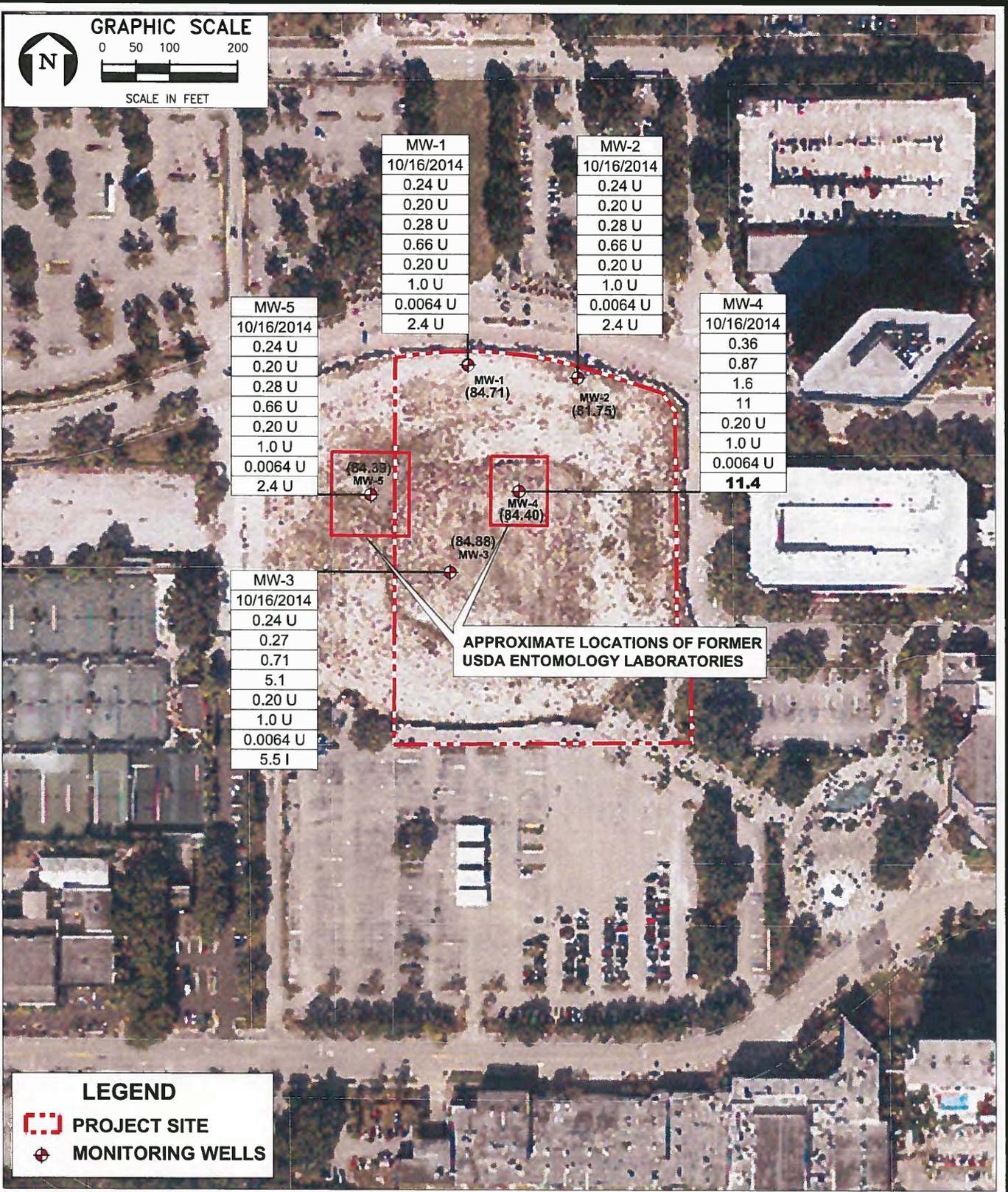
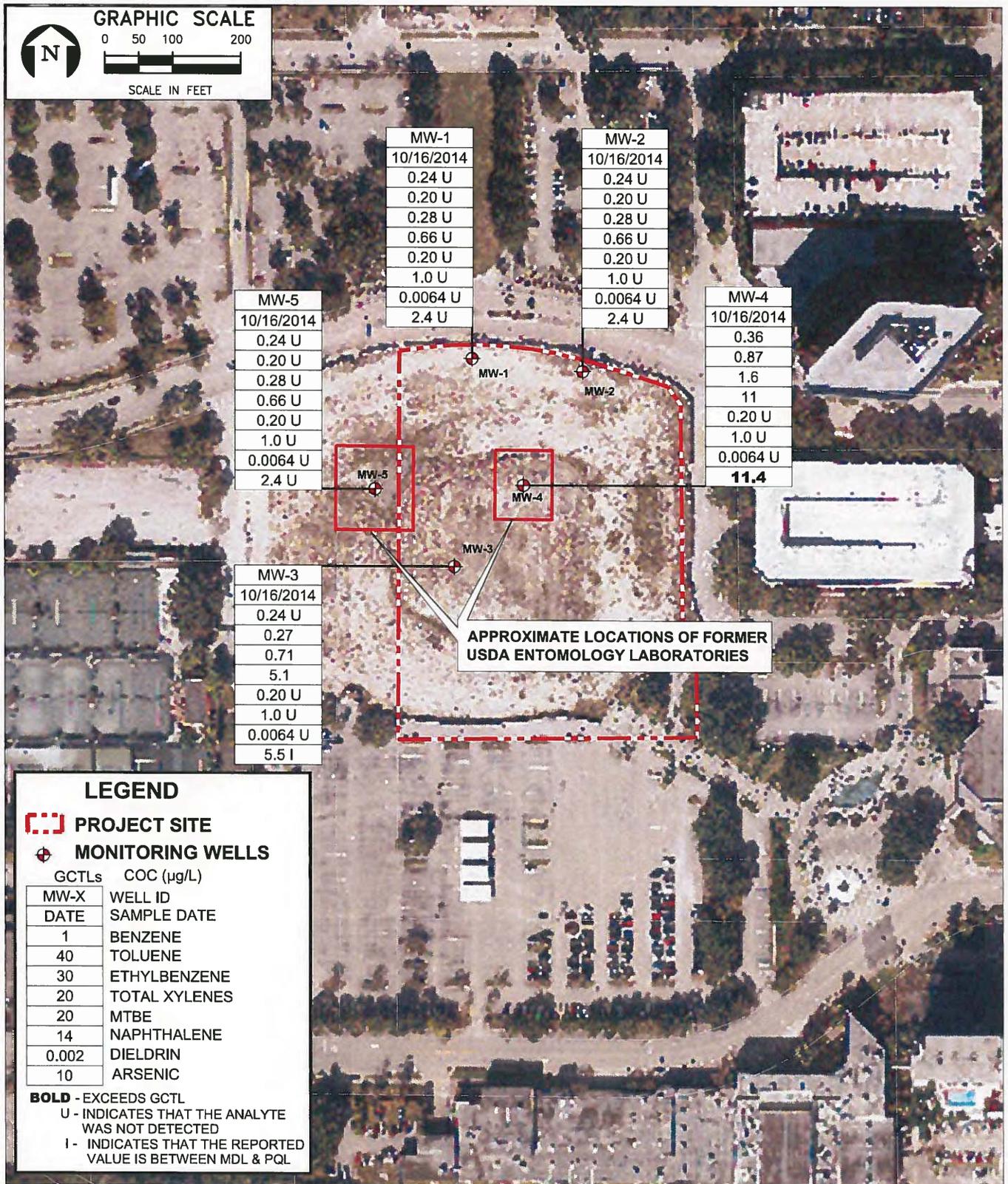


FIGURE 4.  
MONITORING WELL LOCATIONS  
630 W AMELIA STREET, ORLANDO, FL 32801  
SECTION 26, TOWNSHIP 22S, RANGE 29E

SOURCE: OCPA, 2014; ECT, 2014.





**FIGURE 5.**  
**GROUNDWATER QUALITY SUMMARY**  
 630 W AMELIA STREET, ORLANDO, FL 32801  
 SECTION 26, TOWNSHIP 22S, RANGE 29E

SOURCE: OCPA, 2014; ECT, 2014.



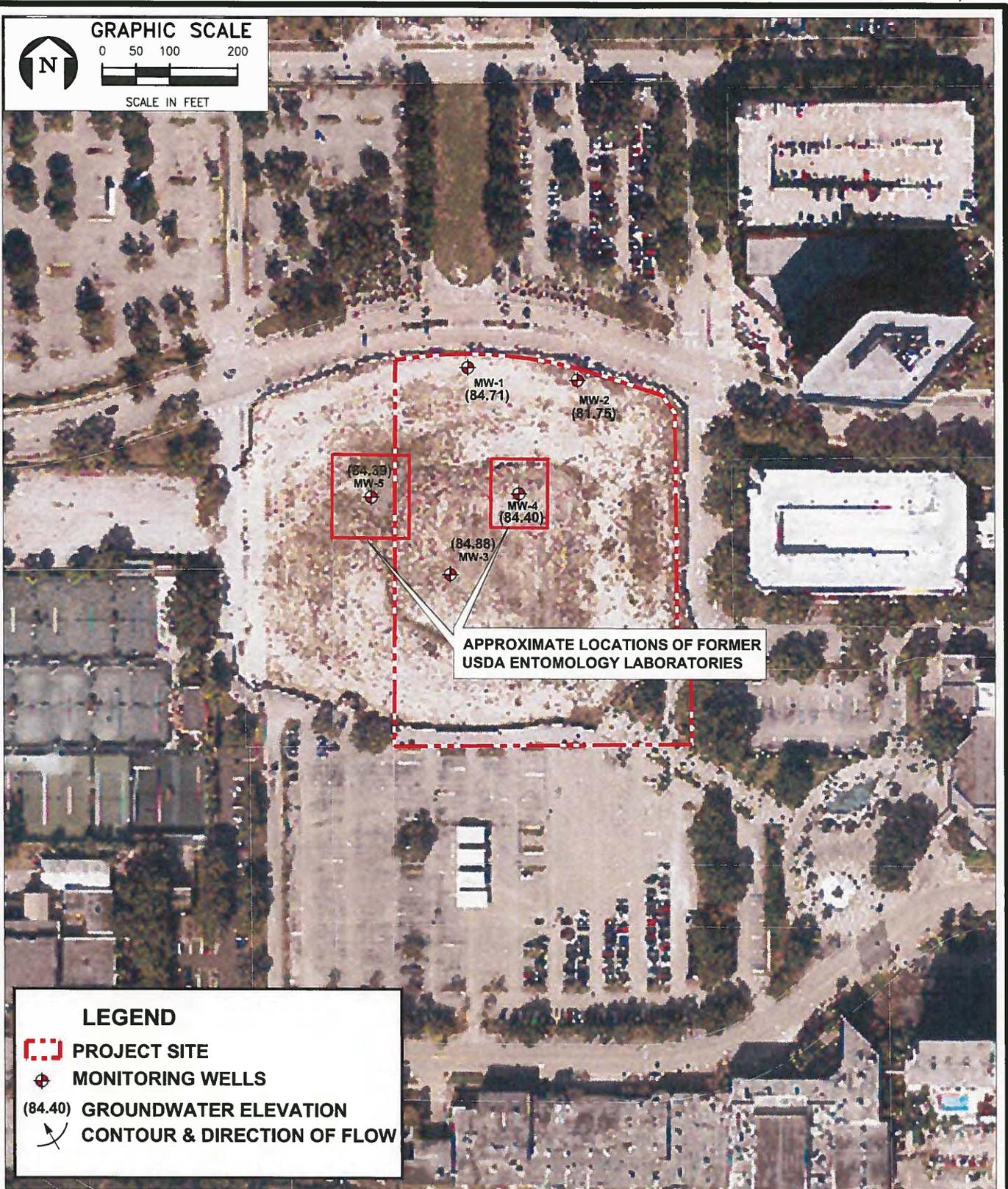


FIGURE 6.  
 GROUNDWATER ELEVATIONS (10/16/2014)  
 630 W AMELIA STREET, ORLANDO, FL 32801  
 SECTION 26, TOWNSHIP 22S, RANGE 29E

SOURCE: OCPA, 2014; ECT, 2014.

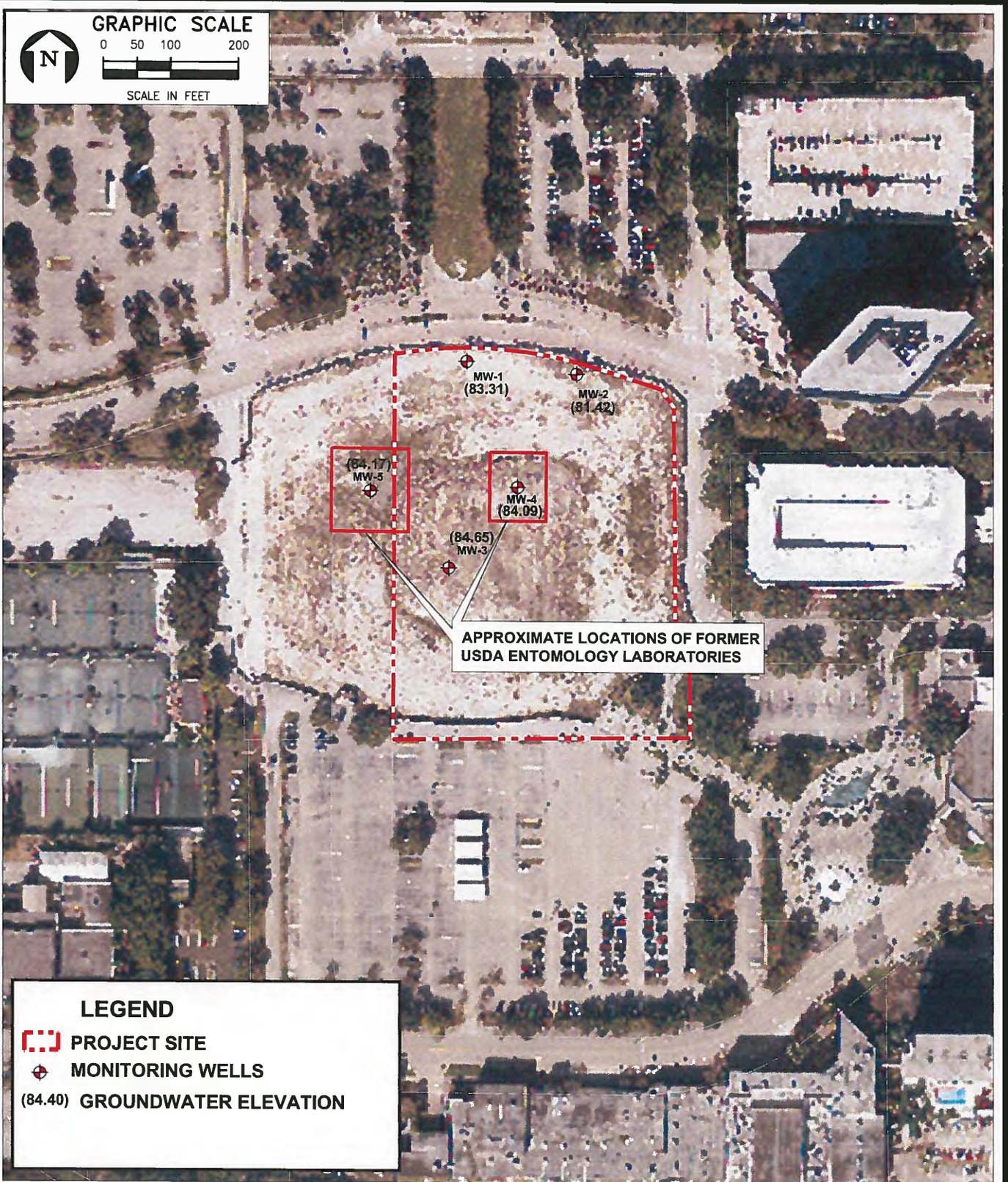


FIGURE 7.  
GROUNDWATER ELEVATIONS (12/10/2014)  
630 W AMELIA STREET, ORLANDO, FL 32801  
SECTION 26, TOWNSHIP 22S, RANGE 29E

SOURCE: OCPA, 2014; ECT, 2014.

## **APPENDIX A**

**EPA R4 BROWNFIELDS GRANT  
SITE ELIGIBILITY DETERMINATION OUTLINE**

*To be used for determining site eligibility for Phase II Environmental Site Assessments and Cleanups.*

**A. GENERAL INFORMATION**

1. Grantee/Applicant Name: CITY OF ORLANDO, FLORIDA
2. If Grant:
  - Grant Number: BF95498212
  - Grant Type (104(k) Assessment, 104(k) RLF): ASSESSMENT
3. Work to be conducted (Phase II Assessment, Phase III Assessment, Cleanup): PHASE II ASSESSMENT
4. How much funding do you anticipate spending on the site? \$26,450. Please note that there are funding limitations for site-specific activities. For assessments, no more than \$200,000 per site, with the possibility of a waiver for up to \$350,000. For cleanups, no more than \$200,000 per site.
5. Date of proposed work: October 2014
6. Date of this document: September 24, 2014

**B. BASIC SITE INFORMATION**

1. Site Name: 630 W. AMELIA STREET
2. Site Address (and County): 630 W. AMELIA STREET, ORLANDO, FL
3. Who is the current owner of the site? CITY OF ORLANDO
4. Describe grantee's or applicants relationship with the owner, and the owner's role in the work to be performed:

THE CITY OF ORLANDO OWNS THE SITE. A SYNOPSIS OF ECT'S RESEARCH, ALONG WITH A SITE MAP OF THE PROPOSED PHASE II ESA ACTIVITIES, IS PROVIDED IN APPENDIX A.

5. Known or Suspected Contaminant(s) (check one):
  - Hazardous Substances
  - Mine Scarred Lands
  - Controlled Substances

- Hazardous Substances Commingled with Petroleum
- Petroleum Only

6. Identify when and how the site became contaminated; describe previous known uses. If the land has been vacant for many years, why does the grantee think that it is contaminated?

FROM DOCUMENTS PROVIDED BY THE CITY, AND REVIEW OF THE LOCAL SANBORN MAPS, TWO USDA BUREAU OF ENTOMOLOGY LABORATORIES WERE IDENTIFIED ON WHAT IS NOW PARCEL 26-22-29-6326-00-010. THE CITY IS IN THE PROCESS OF SIGNING A BROWNFIELD SITE REHABILITATION AGREEMENT (BSRA) FOR CREATIVE VILLAGE, AND THIS PARCEL IS PART OF CREATIVE VILLAGE AND WILL BE INCLUDED IN THE BSRA. THEREFORE, THE CITY IS REQUESTING SITE ASSESSMENT ACTIVITIES BE COMPLETED TO SATISFY THE REQUIREMENTS OF THE BSRA AND ASSIST WITH FUTURE REDEVELOPMENT ACTIVITIES.

7. Does the site meet the definition of a Brownfields Site? (Is the site “real property, the expansion, redevelopment or reuse of which is complicated by the presence or potential presence of hazardous substances, pollutants or contaminants”?)

YES  NO

### C. SITES NOT ELIGIBLE FOR FUNDING BY STATUTE

The grantee must supply the following information to the best of their knowledge:

1. Is the facility listed (or proposed for listing) on the National Priorities List?  YES  NO

2. Is the facility subject to unilateral administrative orders, court orders, administrative orders on consent, or judicial consent decrees issued to or entered into by parties under CERCLA?  
 YES  NO

3. Is the facility subject to the jurisdiction, custody, or control of the US government. (Land held in trust by the US government for an Indian tribe is eligible.)  YES  NO

*Note: If the answer is YES to any of the above (C.1-3) the property is **not** eligible.*

**D. SITES ONLY ELIGIBLE FOR FUNDING WITH A PROPERTY SPECIFIC DETERMINATION BY EPA:**

Certain properties can only be approved with a Property Specific Determination by EPA. The grantee must provide answers to the following questions to the best of their knowledge:

1. Is the site/facility subject to a planned or ongoing CERCLA removal action?  YES  NO
2. Has the site/facility been the subject of a unilateral administrative order, court order, an administrative order on consent or judicial consent decree that has been issued to or entered into by the parties, or been issued a permit by the U.S. or an authorized state under the Solid Waste Disposal Act (as amended by the Resource Conservation and Recovery Act (RCRA)), the Federal Water Pollution Control Act (FWPCA), the Toxic Substances Control Act (TSCA), or the Safe Drinking Water Act (SWDA)?  YES  NO
3. Is the site/facility subject to corrective action orders under RCRA (sections 3004(u) or 3008(h)) and has there been a corrective action permit or order issued or modified to require corrective measures?  YES  NO
4. Is the site/facility a land disposal unit that has submitted a RCRA closure notification under subtitle C of RCRA and is subject to closure requirements specified in a closure plan or permit?  YES  NO
5. Has the site/facility had a release of polychlorinated biphenyls (PCBs) that is subject to remediation under TSCA?  YES  NO
6. Has the site/facility received funding for remediation from the leaking Underground Storage Tank (LUST) Trust Fund?  YES  NO

*Note: If the answer is YES to any of the above (D. 1-6), a property specific determination is required. The grantee or TBA applicant must complete the remaining applicable portions of this outline and submit additional information, as outlined in Appendix A to this document.*

**E. HAZARDOUS SUBSTANCE/COMMINGLED CONTAMINATION SITES (for Petroleum only sites, skip to F.)**

1. Does the grantee own the site?  YES  NO
2. Answer the following if the grantee *is the current site owner*. (If the grantee is not the current site owner, skip to 3) :
  - a. Is the owner a  Unit of State or Local Government **or**  Other
  - b. If the owner is a governmental unit, how was the property acquired?  
 Tax Foreclosure  Donation  Eminent Domain  Bought it outright

Other (Explain): QUIT CLAIM DEED

Date acquired: 1984

c. Do they have a defense to CERCLA liability? (see FY12 ARC Guidelines)

YES – Involuntary Acquisition

Bankruptcy, tax delinquency, abandonment, or other similar circumstances.

YES – Bona Fide Prospective Purchaser (BFPP)

Did the owner conduct Pre-purchase Inquiry (EPA All Appropriate Inquiry, ASTM standards, or other) prior to acquiring property?

YES  NO

Did the owner take reasonable steps with regards to the contamination at the site?

YES  NO

YES – Contiguous Property Owner

YES – Third Party or Innocent Land Owner

YES – Indian Tribe

NO

d. Are they liable at the site as an  Operator,  Arranger, **or**  Transporter

OR  None Applicable

e. Did all disposal of hazardous substances at the site occur before they acquired the property?  YES  NO

f. Did they cause or contribute to any release of hazardous substances at the site?

YES  NO

3. Answer the following if the grantee *is not the site owner*:

N/A

a. Is the grantee potentially liable at the site as an  Operator,  Arranger,  Transporter

b. Is the grantee affiliated with the site owner (familial, contractual, financial)

OR  None Applicable

## F. PETROLEUM ONLY CONTAMINATION SITES

*Petroleum sites need a written site eligibility determination by the state or EPA.*

1. If the state *has made* the petroleum eligibility determination, the grantee must provide EPA with the letter from the state.

2. If the state *was unable to make* the determination, EPA must make the determination consistent with the Guidelines (note that EPA staff will need to refer to the most recent ARC Guidelines to conduct the petroleum determination). The grantee must provide information regarding the following:

a. Whether the site is of “relatively low risk” compared with other “petroleum-only” sites in the state. Two key questions for this determination follow:

1. Have Leaking Underground Storage Tank funds been expended at this site?  
 YES  NO

2. Have Federal Oil Pollution Act response funds been expended at this site?  
 YES  NO

b. Whether there is a viable responsible party at the site. Key questions for this determination follow:

1. Was the site last acquired through tax foreclosure, abandonment or equivalent government proceedings?  YES  NO

2. Has a responsible party been identified through:

a) a judgment rendered in a court of law or an administrative order that would require any party to assess, investigate, or cleanup the site;  YES  NO or

b) a filed enforcement action brought by federal or state authorities that would require any party to assess, investigate, or cleanup the site;  YES  NO or

c) a citizen suit, contribution action or other third party claim against the current or immediate past owner, that would, if successful, require that party to assess, investigate, or clean up the site.  YES  NO;

*Skip to “b.5” if the site was acquired through tax foreclosure, abandonment or equivalent government proceedings; if not, answer question b.3 and 5.4.*

3. The current owner is: \_\_\_\_\_ [fill in the blank] Has the current owner:

a) dispensed or disposed of petroleum or petroleum product at the site?  
 YES  NO

b) owned the property during the dispensing or disposal of petroleum product at the site?  YES  NO

e) exacerbated the contamination at the site?  YES  NO

d) taken reasonable steps with regard to contamination at the site,  
 YES  NO.

4. The immediate past owner is: \_\_\_\_\_ [fill in the blank] Has the immediate past owner:

a) dispensed or disposed of petroleum or petroleum product at the site?   
YES  NO

b) owned the property during the dispensing or disposal of petroleum product at the site?  YES  NO

c) exacerbated the contamination at the site?  YES  NO

d) taken reasonable steps with regard to contamination at the site,  
 YES  NO

5. Based on the above, for purposes of Brownfields funding, is there a responsible party?  YES  NO If "YES" go on to #6, if "NO" proceed directly to F.2.C.

6. If there is a responsible party, is that party viable (has adequate financial resources to pay for assessment of the site).  YES  NO If "NO", explain the basis for that conclusion:

*If there is a viable responsible party, the petroleum site is ineligible. If there is no responsible party, or if there is a responsible party who is not viable, continue. NOTE: States may apply their own laws and regulations to make the petroleum site determination instead of the previous questions; if they do so, the grantee must submit their determination and rationale.*

c. Whether the grantee is potentially liable for cleaning up the site. Key questions for this determination follow:

1. Has the grantee ever:

a) dispensed or disposed of petroleum or petroleum product at the site, or owned the property during the dispensing or disposing of petroleum?

YES  NO

b) exacerbated the contamination at the site?  YES  NO

d. Is the site subject to any order issued under Sec. 9003(h) of the Solid Waste Disposal Act?  YES  NO

#### G. ACCESS

Does grantee have access or an access agreement for this property?  YES  NO

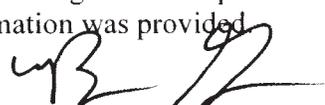
#### H. SITE ELIGIBILITY DETERMINATION BY EPA PROJECT OFFICER

*Please Note: If there are any questions on eligibility, OR if the grantee owns the site it wishes to work on, the P.O. should consult with the Regional Brownfields Coordinator, and as necessary EPA legal counsel.*

Site  is /  is not eligible for site assessment activities using EPA Brownfields Funds

-- OR --

Site is eligible but requires an EPA Property-Specific Determination, for which additional information was provided

  
\_\_\_\_\_  
EPA Project Officer

9-25-2014

Date:

#### I. EPA NOTIFICATION TO APPLICANT OF SITE ELIGIBILITY

Date Sent :

9-26-2014

Copy of Notification Attached:  YES  NO

APPENDIX A: [IF REQUIRED] INFORMATION TO SUPPORT PROPERTY SPECIFIC DETERMINATION by EPA

Grantee must explain why Brownfields financial assistance is needed and how it will protect human health and the environment and either promote economic development or enable the creation of, preservation of, or addition to parks, greenways undeveloped property, other recreational property, or other property used for nonprofit purposes.

From documents provided by the City, and review of the local Sanborn maps, two USDA Bureau of Entomology laboratories were identified on what is now parcel 26-22-29-6326-00-010. Copies of Sanborn maps and aerial photographs are attached. The City is in the process of signing a Brownfield Site Rehabilitation Agreement (BSRA) for Creative Village, and this parcel is part of Creative Village and will be included in the BSRA. Therefore, the City is requesting site assessment activities be completed to satisfy the requirements of the BSRA and assist with future redevelopment activities.

OCPA Web Map

	Major Roads		Proposed Road		Block Line		Commercial/Institutional		Hydro		Golf Course
	Florida Turnpike		Public Road		Lot Line		Governmental/Institutional/Misc		Waste Land		Lake and Rivers
	Interstate 4		Gated Roads		Rail Road		Residential		County Boundary		Building
	Toll Road		Road Under Construction		Proposed SunRail		Agriculture		Parks		Hospital

Courtesy Rick Singh, CFA, Orange County Property Appraiser



x = monitoring well

Groundwater Flow Direction

Approximate locations of former USDA Entomology laboratories

OCPA Web Map

Major Roads	Proposed Road	Block Line	Commercial/Institutional	Hydro	Golf Course
Florida Turnpike	Public Road	Brick Road	Governmental/Institutional/Misc	Waste Land	Lake and Rivers
Interstate 4	Gated Roads	Rail Road	Commercial/Industrial/Vacant Land	County Boundary	Building
Toll Road	Road Under Construction	Proposed SunRail	Agriculture	Parks	Hospital

Courtesy Rick Singh, CFA, Orange County Property Appraiser



x - monitoring well

Groundwater Flow Direction

Approximate locations of former USDA Entomology laboratories



INQUIRY #: 3666506.5

YEAR: 1994

— = 500'





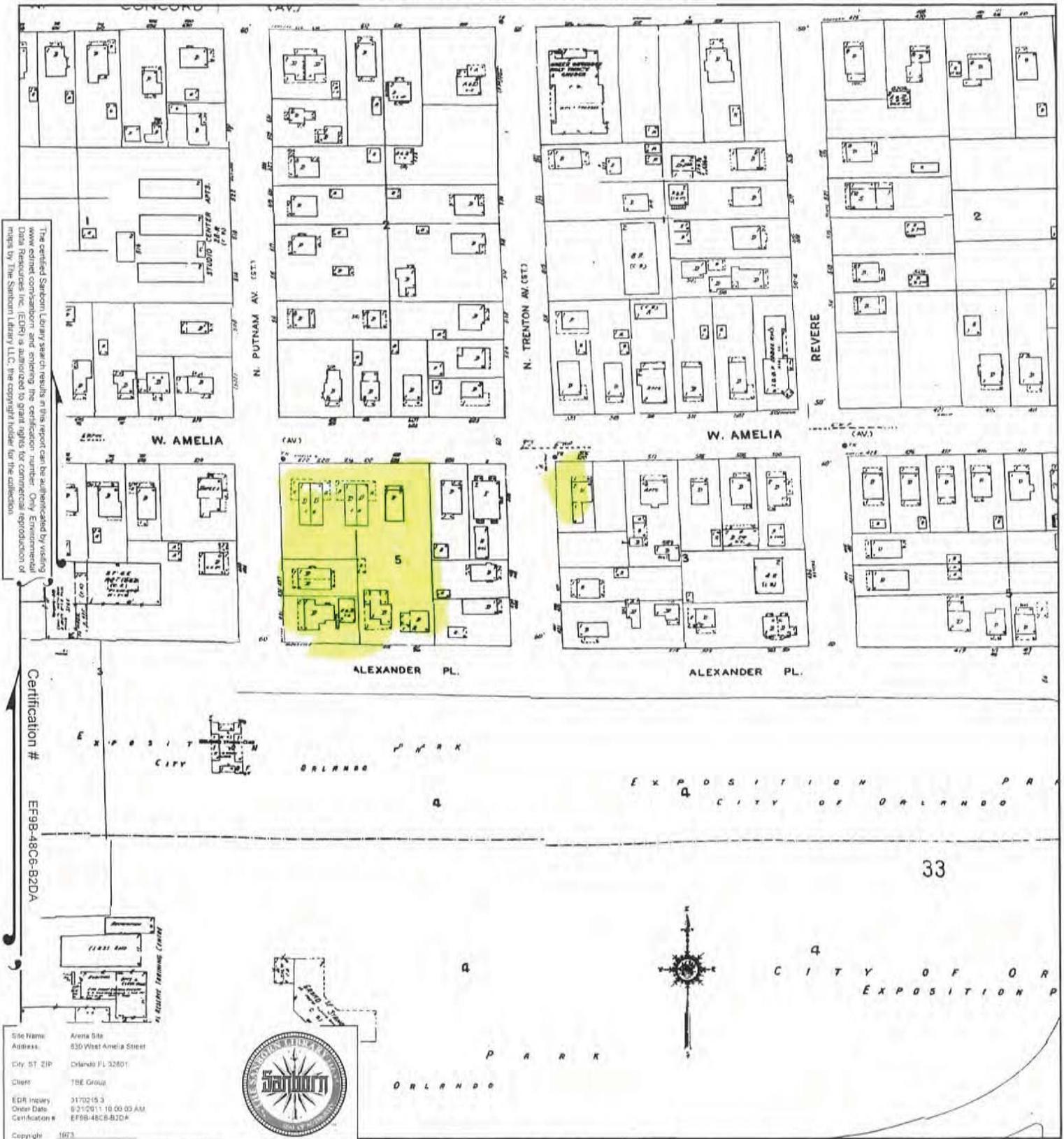
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**YEAR:** 1984

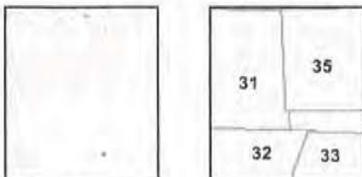
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# 1973 Certified Sanborn Map

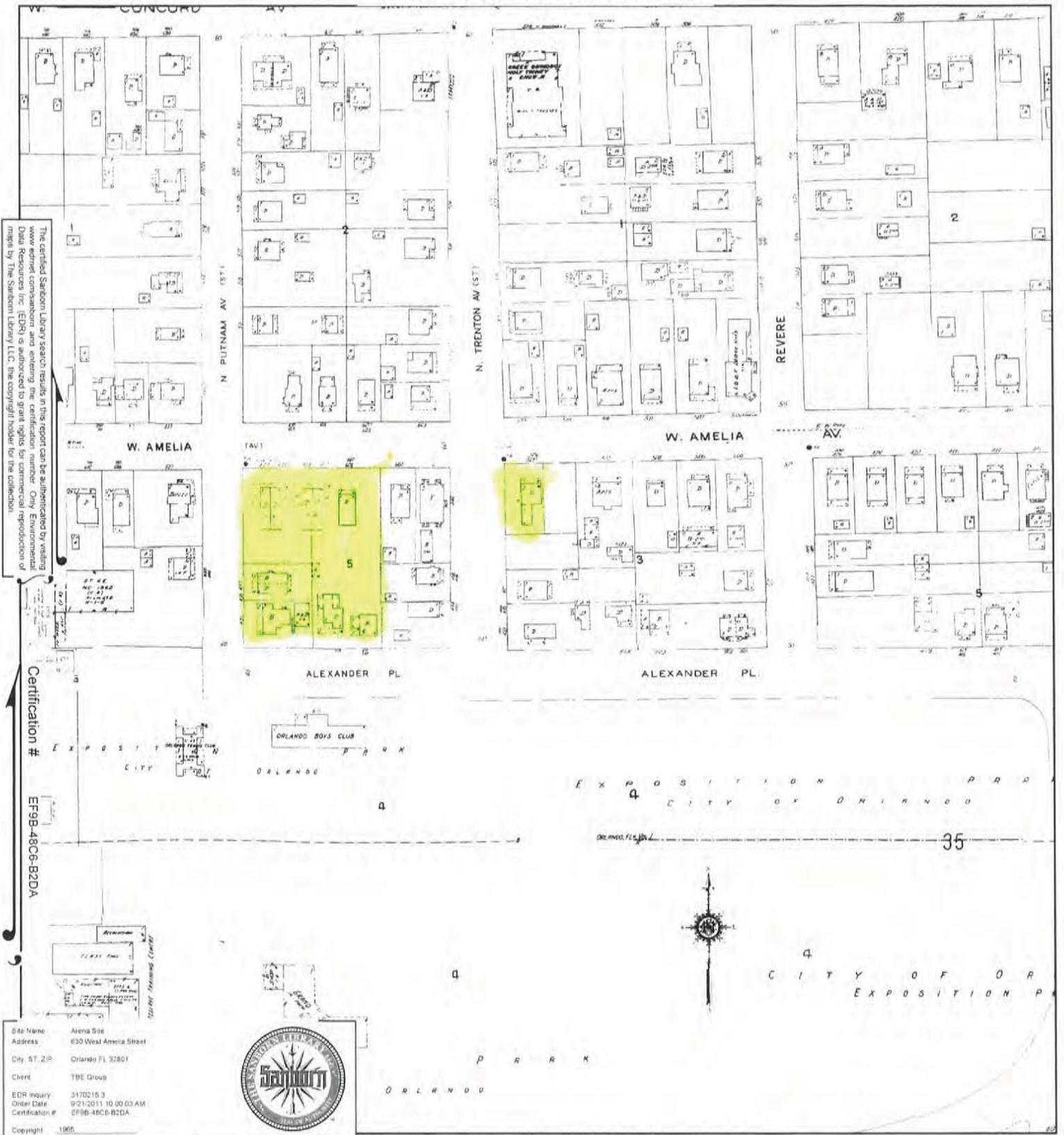


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- Volume 1, Sheet 32
- Volume 1, Sheet 33
- Volume 1, Sheet 35

# 1965 Certified Sanborn Map



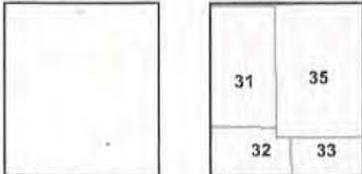
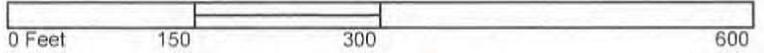
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Certification # EF9B-48C6-B2DA

Site Name: Arena Site  
 Address: 630 West Amelia Street  
 City, ST, ZIP: Orlando FL 32801  
 Client: TBE Group  
 EDR Inquiry: 3170215.3  
 Order Date: 9/21/2011 10:00:03 AM  
 Certification #: EF9B-48C6-B2DA  
 Copyright: 1965



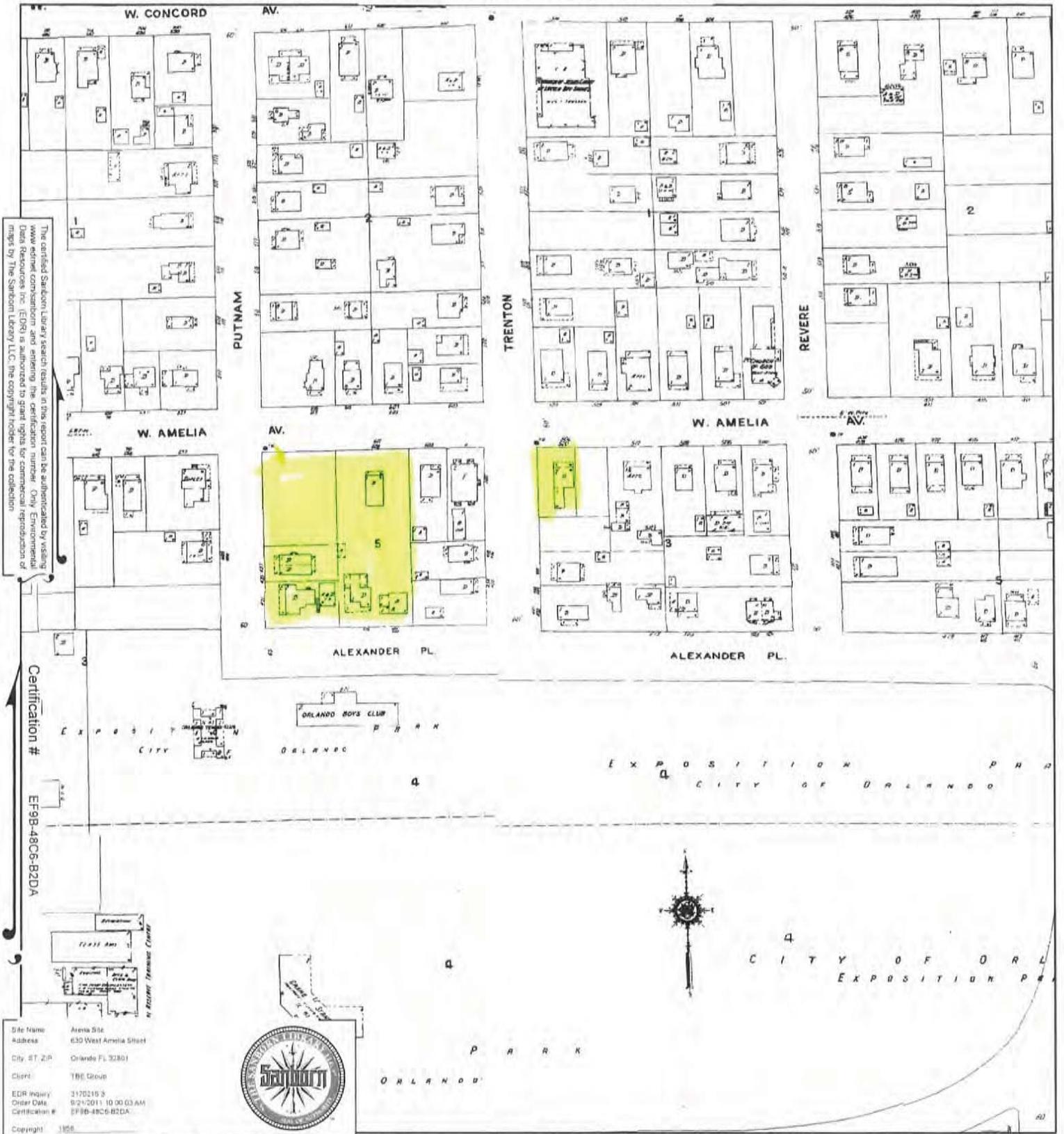
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# 1956 Certified Sanborn Map



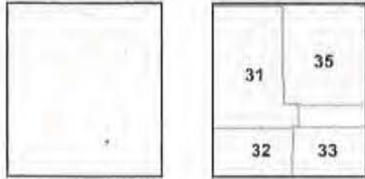
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Certification # EF9B-48C6-B2DA

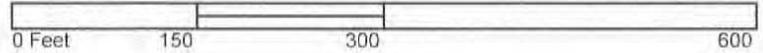
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 Address: 630 West Amelia Street  
 City, ST, ZIP: Orlando FL 32801  
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 Order Date: 8/21/2011 10:00:03 AM  
 Certification #: EF9B-48C6-B2DA  
 Copyright: 1956



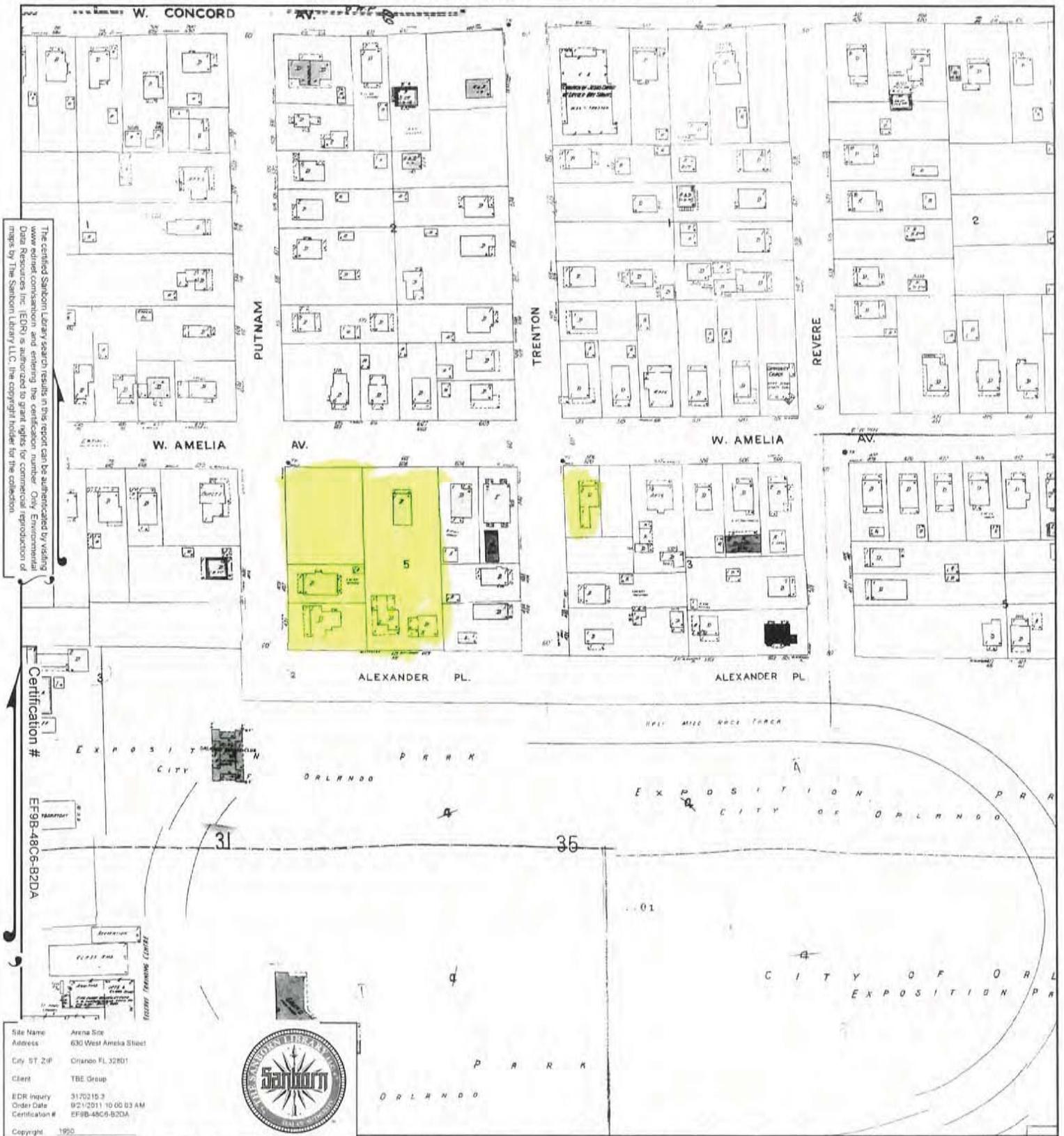
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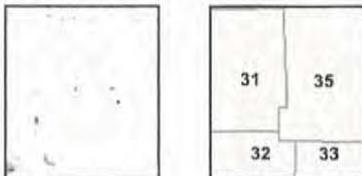
- Volume 1, Sheet 31
- Volume 1, Sheet 32
- Volume 1, Sheet 33
- Volume 1, Sheet 35



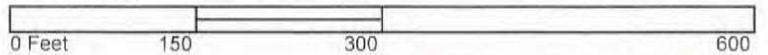
# 1950 Certified Sanborn Map



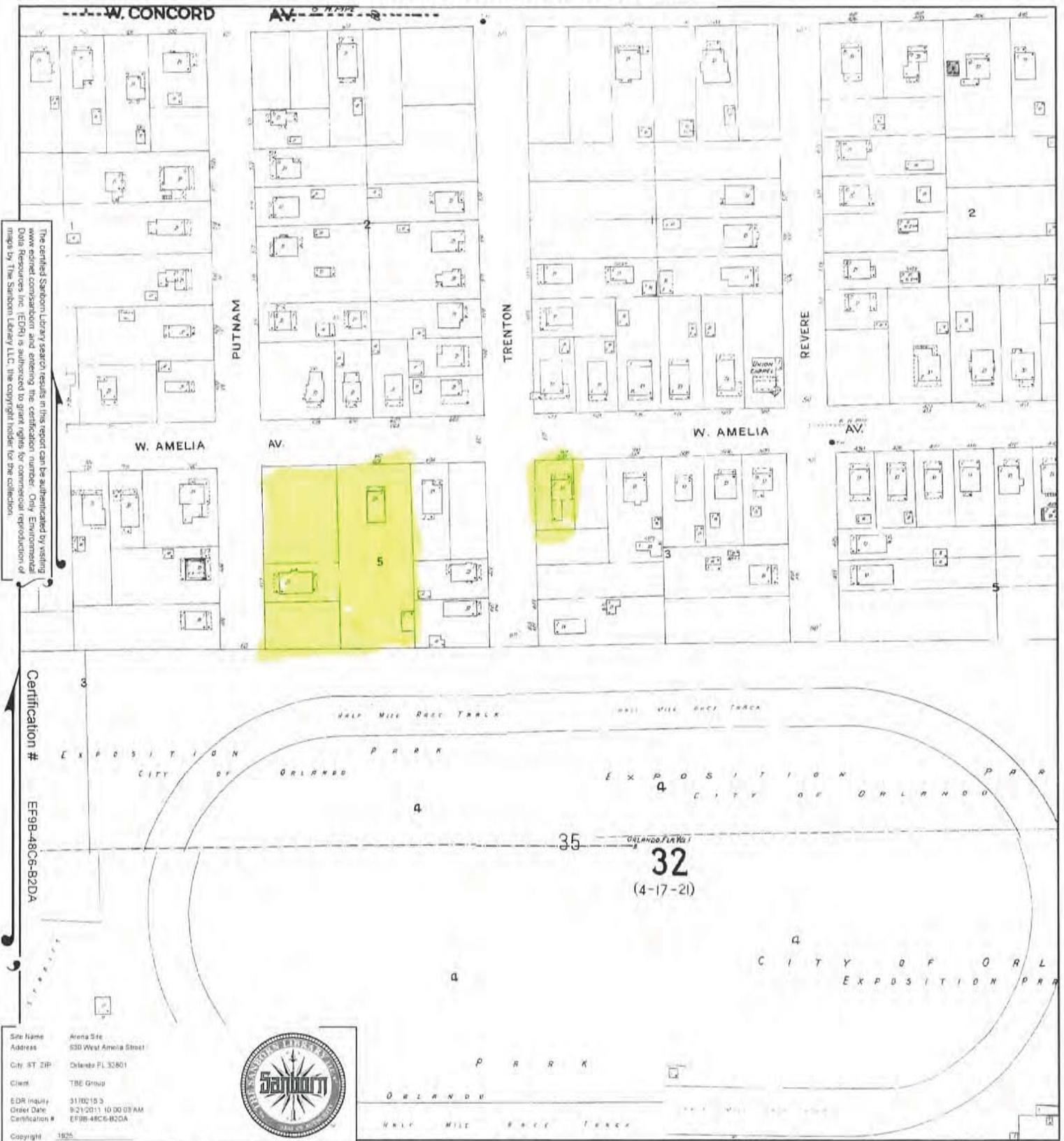
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 Outlined areas indicate map sheets within the collection.



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- Volume 1, Sheet 33
- Volume 1, Sheet 35



# 1925 Certified Sanborn Map



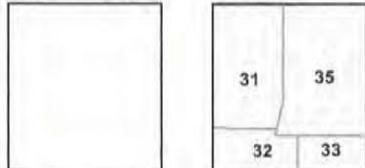
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Certification # EF98-48C6-82DA

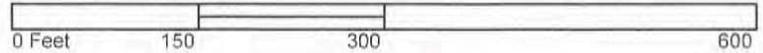
Site Name: Arona Site  
 Address: 530 West Amelia Street  
 City ST ZIP: Orlando FL 32801  
 Client: TBE Group  
 EDR Inquiry: 3170215-3  
 Order Date: 9/21/2011 10:00 AM  
 Certification #: EF98-48C6-82DA  
 Copyright: 1925



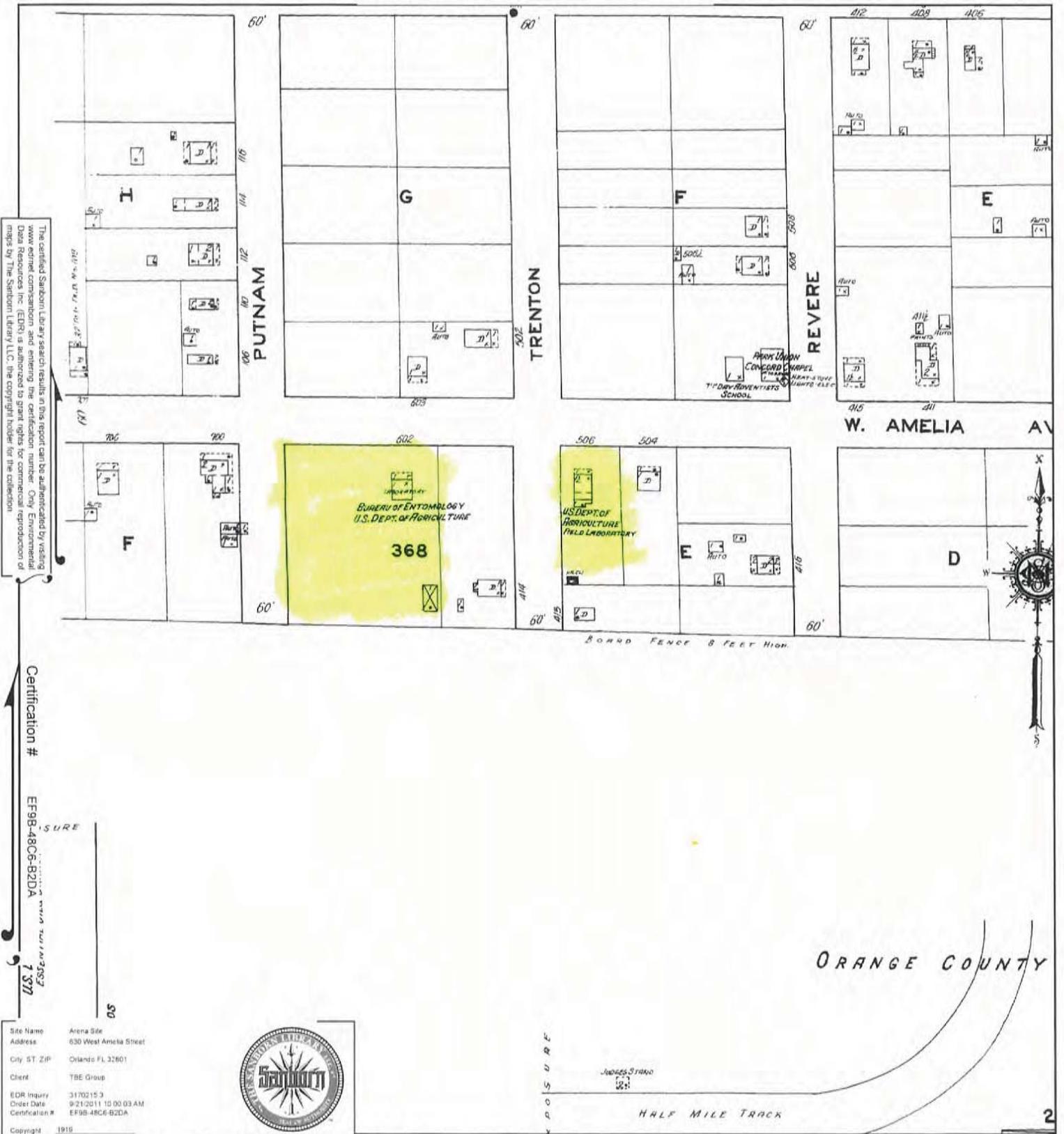
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- Volume 1 & 2, Sheet 33
- Volume 1 & 2, Sheet 35



# 1919 Certified Sanborn Map



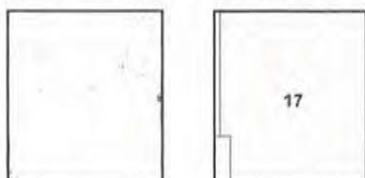
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Certification # EF98-4806-B2DA  
 1/3/11

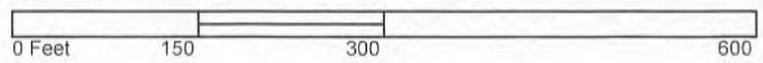
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 City, ST, ZIP: Orlando, FL, 32801  
 Client: TBE Group  
 EDR Inquiry: 31702153  
 Order Date: 9/21/2011 10:00:03 AM  
 Certification #: EF98-4806-B2DA  
 Copyright: 1919



This Certified Sanborn Map combines the following sheets. Outlined areas indicate map sheets within the collection.



Volume 1, Sheet 17



## **APPENDIX B**

**A1. TITLE/APPROVAL AND INTRODUCTION**

**Site Specific Quality Assurance Project Plan  
Addendum 3A**

Brownfields Phase II Environmental Site Assessment  
630 W. Amelia Street  
Orlando, Orange County, Florida  
A companion document to

**Generic Quality Assurance Project Plan**

for  
EPA Brownfields Cooperative Agreement BF-95498212

*prepared for:*

**City of Orlando, Florida**  
Public Works Division  
5100 L.B. McLeod Road  
Orlando, FL 32811

*prepared by:*

**ECT** Environmental  
Consulting &  
Technology, Inc

3660 Maguire Boulevard, Suite 107  
Orlando, Florida 32803  
407/903-0005 (t)  
[www.ectinc.com](http://www.ectinc.com)

*ECT Project No. 140644-0001*

*September 2014*

	<i>Jeffrey J. Peters</i>	Approval:
Project Manager/Director:	<u>Jeffrey J. Peters, P.G.</u>	Jeffrey J. Peters / 9/29/2014 Printed Name/Date
ECT Quality Assurance/Quality Control Officer:	<u>Dave Kraus</u>	Dave Kraus / 9/29/2014 Printed Name/Date
U.S. EPA Project Manager:	<u>Brian Gross</u>	10-10-2014 Printed Name/Date
U.S. EPA Designated Approving Office:	<u>Brian Gross</u>	10-10-2014 Printed Name/Date
City of Orlando Brownfield Coordinator	<u>Dan Dashtaki</u>	10-14-2014 Printed Name/Date

## INTRODUCTION

The City of Orlando, Florida is the recipient of a Brownfields Assessment Grant, EPA Cooperative Agreement BF-95498212. This grant was awarded in September 2012 and is a community-wide grant, with emphasis on the Parramore Community. Developing these areas will boost the core of the community's economy and provide a greater connectivity with other economically depressed communities.

As part of the Brownfields Assessment Grant, a Generic Quality Assurance Project Plan (QAPP) was prepared in September 2013. The plan was prepared in accordance with the requirements of EPA Region 4 Brownfields Program. The Generic QAPP was approved by EPA on September 18, 2013.

The vacant parcel of property located at 630 W. Amelia Street (Site) is proposed for redevelopment as part of Creative Village. From documents provided by the City, and review of the local Sanborn maps, two USDA Bureau of Entomology laboratories were identified on what is now parcel 26-22-29-6326-00-010. The City is in the process of signing a Brownfield Site Rehabilitation Agreement (BSRA) for Creative Village, and this parcel will be included in the BSRA. Therefore, the City is requesting site assessment activities be completed to satisfy the requirements of the BSRA and assist with future redevelopment activities.

A proposal for a Phase II ESA has been prepared to investigate the potential concerns listed above. The Phase II ESA for this site shall be conducted in general accordance with the scope and limitations of ASTM E1903-11.

This Site Specific Quality Assurance Project Plan (SSQAPP) was prepared in accordance with the requirements of EPA Region 4 Brownfields Program and is intended to document the necessary quality assurance (QA) and quality control (QC) criteria, and other technical activities that are implemented to ensure that the results of the Phase II ESA will satisfy the required performance criteria. This SSQAPP is the initial SSQAPP prepared for this site. Therefore, the addendum reference for this document is Addendum 3A. The work described in this SSQAPP will be conducted in accordance with the processes described in the Generic QAPP.

**A2. TABLE OF CONTENTS**

A1. TITLE/APPROVAL AND INTRODUCTION ..... 1  
A2. TABLE OF CONTENTS..... 3  
A3. DISTRIBUTION LIST ..... 4  
A4. PROJECT/TASK ORGANIZATION..... 5  
A5. PROBLEM DEFINITION/BACKGROUND..... 5  
A6. PROJECT/TASK DESCRIPTION AND SCHEDULE..... 6  
A7. SPECIAL TRAINING REQUIREMENTS/CERTIFICATION..... 8  
A8. DOCUMENTS AND RECORDS..... 8  
B1. PROJECT/TASK ORGANIZATION..... 8  
B2. SAMPLING DESIGN PROCESS ..... 8  
B3. SAMPLE HANDLING AND CUSTODY REQUIREMENTS ..... 9  
B4. ANALYTICAL METHODS AND REQUIREMENTS..... 9  
B5. FIELD QUALITY CONTROL REQUIREMENTS..... 10  
B6. LABORATORY QUALITY CONTROL REQUIREMENTS..... 10  
B7. FIELD EQUIPMENT AND CORRECTIVE ACTION ..... 10  
B8. LAB EQUIPMENT AND CORRECTIVE ACTION..... 10  
B9. ANALYTICAL SENSITIVITY AND PROJECT CRITERIA ..... 11  
B10. DATA MANAGEMENT AND DOCUMENTS ..... 11  
C1. ASSESSMENT AND RESPONSE ACTIONS ..... 11  
C2. PROJECT REPORTS ..... 11  
D1. FIELD DATA EVALUATION ..... 11  
D2. LABORATORY DATA EVALUATION ..... 12  
D3. DATA USABILITY AND PROJECT VERIFICATION..... 12  
REFERENCES ..... 13  
LIST OF ABBREVIATIONS..... 15

**LIST OF ATTACHMENTS**

**FIGURES**

Figure 1: Proposed Groundwater Monitoring Well Locations

**ATTACHMENT A**

Quality Assurance Project Organization Chart

### **A3. DISTRIBUTION LIST**

The following individuals will receive copies of the approved Site Specific Quality Assurance Project Plan (QAPP) and subsequent revisions:

- Brian Gross, Brownfields Project Officer/Manager, United States Environmental Protection Agency (EPA) Region 4, Atlanta Federal Building, 61 Forsyth Street S.W., Atlanta, Georgia 30303; Phone (404) 562-8604, email: gross.brian@epamail.epa.gov
- George Houston II, P.G., Brownfields Coordinator, FDEP, Central District, 3319 Maguire Boulevard, Suite 232, Orlando, Florida 32803; Phone (407) 893-3331; fax (407)893-3599; email: George.houston@dep.state.fl.us
- Dan Dashtaki, Brownfields Coordinator, 5100 L.B. McLeod Road, Orlando, FL 32811; Phone (407) 246-2664; fax (407) 24-2886; email: dan.dashtaki@cityoforlando.net

#### **ECT Distribution List**

- Jeffrey Peters, P.G., Project Manager/Director, ECT, 3660 Maguire Boulevard, Suite 107, Orlando, Florida 32803; Phone (407) 903-0005, email: jpeters@ectinc.com
- Dave Kraus, P.G., Quality Assurance/Quality Control (QA/QC) Officer, ECT, 3660 Maguire Boulevard, Suite 107, Orlando, Florida 32803; Phone (407) 903-0005, email: dkraus@ectinc.com
- Adam Earl, Field Team Technician, ECT, 3660 Maguire Boulevard, Suite 107, Orlando, Florida 32803; Phone (407) 903-0005. aearl@ectinc.com

#### **A4. PROJECT/TASK ORGANIZATION**

The project/task organization for this project follows the description provided in the Generic QAPP. The **Quality Assurance Project Organization Chart** included **Attachment A** shows the project organization structure for this Phase II ESA.

#### **A5. PROBLEM DEFINITION/BACKGROUND**

The City of Orlando is the current property owner of the Site located at 630 W. Amelia Street, Orlando, FL (**Figures 1-3**). The purpose of this Phase II ESA is to address the following issues and/or questions:

- To determine if the former entomology laboratories have impacted the groundwater at the Site to levels above the Florida Groundwater Cleanup Target Levels (GCTLs).

##### **Current Conceptual Site Model**

The United States Geological Survey (USGS) 7.5-Minute Series of the Orlando West, Florida quadrangle map dated 1997 indicates the Site has an approximate elevation of 109 feet above mean sea level (ft-msl). The surrounding properties are typically at the same elevation or lower than the Site.

According to the United States Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS) Soil Survey of Orange County, Florida (1989), the majority of the subject property is underlain by Millhopper fine sands. Below is a brief description of this soil type:

Millhopper fine sand: This soil type is nearly level to gently sloping and moderately well drained and is found on low ridges and knolls on the uplands and on the flatwoods. The slopes are nearly smooth to slightly convex. A seasonal high water table in Tavares soil is at a depth of 40 to 72 inches for more than 6 months, and it recedes to a depth of more than 80 inches during extended dry periods. A seasonal high water table in Millhopper soil is at a depth of 40 to 60 inches for 1 to 4 months, and it recedes to a depth of 60 to 72 inches for 2 to 4 months. During periods of high rainfall, the water table is at a depth of 30 to 40 inches for cumulative periods of 1 to 3 weeks. The permeability of Tavares soil is very rapid. The permeability of Millhopper soil is rapid in the surface and subsurface layers and moderately rapid of moderate in the subsoil. The available water capacity of Tavares soil is very low. The available water capacity of Millhopper soil is low in the surface and subsurface layers and medium in the subsoil. Natural fertility is very low in Tavares soil and low in Millhopper soil. Organic matter content is very low in Tavares soil and low or moderately low in Millhopper soil. In most areas, the soils in this map unit are used for citrus crops and/or for homesite development.

ECT personnel also reviewed the soil survey of Orange County, dated 1957 (issued 1960). According to the Soil Survey, Orange County is underlain by marine deposited beds of sand, silt, clay, limestone, dolomite, and shale to about 6,500 feet below land surface (bls). The uppermost unit is Pleistocene to Recent in age and generally composed of unconsolidated, very fine to medium-grained quartz sand with some clays. The Pleistocene and Recent age

sediments are underlain by the Hawthorn Group of Miocene age (about 25 million years old). In general, the Hawthorn Group is highly variable and diverse, including inter-bedded and inter-fingered sand, clayey sand, sandy-clayey phosphatic sediments, dolomite, and limestone. The Miocene age sediments are underlain by a thick sequence of late Eocene age limestone formations known as the Ocala Group. It is described as gray clay and gravel to white, soft limestone. The Ocala Group Limestone is underlain by the Avon Park Limestone, which is also of Eocene age. This formation is composed of similar materials, but distinguished from overlying units by the occurrence of sand-sized, cone-shaped foraminifera. The formation is usually tan in color, but can range from chalky white to light brown or ashen gray. The Lake City Limestone of middle Eocene age underlies the Avon Park Limestone. It is similar in lithology and water-bearing properties to the Avon Park Limestone and makes up the bottom portion of the Floridan aquifer.

According to the Soil Survey, ground water occurs in both artesian and non-artesian conditions in the Orange County. The non-artesian aquifer is composed mainly of sand and shell with varying amounts of clay and provides limited amounts of water. Water from this aquifer is used mainly for livestock and limited domestic use. Water quality in this aquifer varies depending on the chemical composition of the aquifer and the content of the calcium carbonate in the area. The secondary artesian aquifer and the Floridan Aquifer are the two types of artesian aquifers in Orange County. The secondary artesian aquifer generally yields less water than the Floridan Aquifer, but yields more than the non-artesian aquifers. The secondary artesian aquifers contain undifferentiated sediments and are more extensive in the Hawthorn Group. The quality of the secondary artesian aquifer varies with depth, location, and local geologic and hydrologic conditions.

The Floridan Aquifer underlies all of Florida. In Orange County, the Floridan Aquifer includes the Lake City Limestone, the Avon Park Limestone, the Ocala Group, and parts of the Hawthorn Group. The aquifer consists of alternating layers of limestone and dolomite or dolomitic limestone. This aquifer is one of the most productive in the world. Ground water recharge in Orange County of the Floridan Aquifer comes from annual rainfall. Water also enters the Floridan Aquifer by underground flow from outside the region. Discharge of ground water from the Floridan Aquifer occurs by spring outflow, seepage into the St. Johns River system, by outflows to other areas, and by localized pumping in the area.

## **A6. PROJECT/TASK DESCRIPTION AND SCHEDULE**

The objectives of this Phase II ESA will be to evaluate whether or not petroleum-based or hazardous substances associated with the former entomology laboratories may have impacted the groundwater. A site map depicting the locations of the proposed groundwater monitoring well locations is presented as **Figure 1**.

The tasks to be completed that comprise this Phase II ESA include:

**Site-Specific Quality Assurance Project Plan**

Prior to implementing the scope of work outlined below, this SSQAPP was prepared and submitted to the City of Orlando and to EPA for approval. This plan was prepared in general accordance with the Brownfield grant requirements.

**Site-Specific Health and Safety Plan**

ECT will prepare and complete a Site-Specific Health & Safety Plan in accordance with 29 CFR 1910.120 and EPA requirements which shall be submitted to the City of Orlando and EPA for review and approval.

**Groundwater Investigation**

ECT proposes to install 5 monitoring wells (MWs) to a depth of 20 feet below land surface (ft. bls). Monitoring wells will be constructed of 2-inch diameter polyvinyl chloride (PVC), screened from 10 to 20 ft bls using 0.006-inch slotted screen, with a 30/45 sand pack. The well shall be flush mounted with a concrete pad (2' x 2'). The drilling contractor will develop the well and provide the well development logs and associated documents to ECT. Drill cuttings will be spread on-site adjacent to the monitoring wells. Monitoring well development water will be containerized for disposal.

At least 48-hours after MW installation, ECT will sample the groundwater from the MWs. The groundwater samples will be analyzed by Accutest Laboratories according to EPA Methods 8260 (BTEX + MTBE + naphthalene), 8151 (chlorinated herbicides), 8141 (organophosphorous pesticides), 6020 (arsenic), and 8081 (TCL pesticides). Monitoring well development water will be containerized for disposal.

No soil samples will be collected due to the nature of the Site (former Orlando Arena) and the presumption that the soils in this area are non-native or have been re-worked due to former development activities.

**Laboratory Analyses**

Groundwater samples will be delivered under a chain of custody on wetted ice to Accutest Laboratories for the analyses outlined in Section B.2.

**Phase II ESA Report**

Based on the information obtained from the tasks above, a report will be prepared that presents the Phase II ESA findings with figures, tables, and appendices, as appropriate. Recommendations for further assessment or corrective actions, if applicable, will be included in the report.

**Schedule**

Once the SSQAPP is complete and approved by the City of Orlando, the SSQAPP will be sent to the EPA for review. It is anticipated that review of the SSQAPP will take approximately 1-3 weeks.

Field work will be scheduled to begin within one week of approval from the EPA of the SSQAPP. Field activities are expected to take 2 days. It is anticipated that the laboratory analyses report will be received within 10 business days after the completion of the soil sampling event. A final report can be delivered within 30 calendar days of receipt of laboratory analytical data.

The objectives of the Brownfields Phase II ESA for the Site will be to evaluate whether petroleum-based or hazardous substances are present in the groundwater. FDEP Chapter 62-780, F.A.C will provide guidance to whether further assessment is warranted based upon applicable criteria. The scope of work has been designed to assess the presence or absence of petroleum-based or hazardous substances and/or contaminants of concern associated with pigments or paint resulting from historical use of the property adjoining the Site to the east; not to delineate impacts or to design a remediation strategy.

#### **A7. SPECIAL TRAINING REQUIREMENTS/CERTIFICATION**

General procedures and requirements for special training requirements/certification are provided in the Generic QAPP.

#### **A8. DOCUMENTS AND RECORDS**

General procedures and requirements for documents and records are provided in the Generic QAPP.

#### **B1. PROJECT/TASK ORGANIZATION**

The site specific Project/Task Organization chart is included as **Attachment A**.

#### **B2. SAMPLING DESIGN PROCESS**

General procedures and requirements regarding the sampling design process are provided in the Generic QAPP. FDEP SOP-001/01 provides procedures for routine field sampling and measurement; the procedures presented in FDEP SOP-001/01 will be followed during field sampling events as applicable.

A summary table for groundwater sampling containers, methods of analysis, number of containers for each analytical analysis and QA sampling requirements is provided below:

Matrix	Parameter	Number of Samples	Method	Container	Preservative	Hold Time	Container
Liquid	VOCs	5	EPA 8260 BTEX/NAPH	Glass	HCL	14 days	40 ml vial
Liquid	Herbicides	5	EPA 8151	Glass	Ice	7 days	1 liter amber
Liquid	Pesticides	5	EPA 8081	Glass	Ice	7 days	1 liter amber
Liquid	Pesticides	5	EPA 8141	Glass	Ice	7 days	1 liter amber
Liquid	Arsenic	5	EPA 6010	Plastic	HNO3	28 days	500 ml

Note: Additional samples may be warranted based on field conditions at the time of sampling.

### Equipment Needs

The following is a list of equipment anticipated for use during the implementation of this Phase II ESA:

#### Groundwater Sampling

VS peristaltic pump	pH meter
DO meter	Conductivity meter
Flow-through cell	Groundwater level meter

#### Consumable Equipment

Nitrile gloves	Non-phosphate detergent
Paper towels	Trash bags
Aluminum foil	Ice
En Core <sup>®</sup> samplers	Tubing

Other information for the Sampling design process is provided in the Generic QAPP.

### **B3. SAMPLE HANDLING AND CUSTODY REQUIREMENTS**

General procedures and requirements for sample handling and custody requirements are provided in the Generic QAPP.

### **B4. ANALYTICAL METHODS AND REQUIREMENTS**

General procedures for analytical methods and requirements are provided in the Generic QAPP. A listing of the site specific analytical methodologies and required instrumentation is as follows:

- Volatile organic compounds (Table A): U.S. EPA Method 8260
- Arsenic: U.S. EPA Method 6010
- Organophosphate pesticides: U.S. EPA Method 8041 / 8141

- Organochlorine pesticides: U.S. EPA Method 8081
- Chlorinated herbicides: U.S. EPA Method 8151

It is anticipated that laboratory analytical reports will be delivered within 10 business days after field activities are complete.

## **B5. FIELD QUALITY CONTROL REQUIREMENTS**

General procedures for field quality control requirements are provided in the Generic QAPP. Field personnel shall take special care when handling soils; soil screening and sampling shall be conducted in general accordance with FDEP SOPs.

The site specific numbers of duplicate and blank samples to be collected for soil analyses are as follows:

- Equipment rinsate blanks will be collected whenever field decontamination of equipment to be re-used in sampling activities is performed. At least one equipment rinsate blank shall be collected for each of the soil sample analyses listed above in **Section B4**.
- Two duplicate samples for groundwater samples collected for analysis by U.S. EPA 8260
- One field blank sample for each cooler containing groundwater samples collected for analysis by U.S. EPA 8260
- One trip blank for each cooler containing groundwater samples.

## **B6. LABORATORY QUALITY CONTROL REQUIREMENTS**

General procedures for laboratory quality control requirements are provided in the Generic QAPP. Additional requirements regarding laboratory quality control requirements are specifically addressed in Accutest's QA manual provided in Attachment D of the Generic QAPP.

## **B7. FIELD EQUIPMENT AND CORRECTIVE ACTION**

General requirements on field equipment and corrective action are provided in the Generic QAPP.

## **B8. LAB EQUIPMENT AND CORRECTIVE ACTION**

General procedures for laboratory equipment and corrective action are provided in the Generic QAPP. Additional requirements regarding laboratory equipment and corrective

action are specifically addressed in Accutest's QA Manual provided in Attachment D of the Generic QAPP.

## **B9. ANALYTICAL SENSITIVITY AND PROJECT CRITERIA**

Details regarding Analytical Sensitivity and Project Criteria are provided in the Generic QAPP. The site specific information is addressed by the Accutest's QA Manual in Attachment D of the Generic QAPP. In addition, project criteria are based on Chapter 62-777, F.A.C.

## **B10. DATA MANAGEMENT AND DOCUMENTS**

General requirements for data management and documents are provided in the Generic QAPP.

It is anticipated that laboratory analytical reports for this Phase II ESA will be received within 10 working days following field activities as discussed in Section A6, above. Final reports shall be issued within 30 calendar days after receipt of the above specified analytical reports and data.

## **C1. ASSESSMENT AND RESPONSE ACTIONS**

General requirements for assessment and response actions are provided in the Generic QAPP.

## **C2. PROJECT REPORTS**

General requirements for project reports are provided in the Generic QAPP.

It is anticipated that laboratory analytical reports for this Phase II ESA will be received within 10 working days following field activities as discussed in Section A6, above. Final reports shall be issued with 30 calendar days after receipt of the above specified analytical reports and data.

## **D1. FIELD DATA EVALUATION**

General requirements for field data evaluation are provided in the Generic QAPP.

## **D2. LABORATORY DATA EVALUATION**

General requirements for laboratory data evaluation are provided in the Generic QAPP. Additional requirements regarding laboratory data evaluation are specifically addressed in Accutest's QA Manual provided in Attachment D of the Generic QAPP.

## **D3. DATA USABILITY AND PROJECT VERIFICATION**

General requirements for data usability and project verification are provided in the Generic QAPP. Additional requirements regarding laboratory data evaluation are specifically addressed in Accutest's QA Manual provided in Attachment D of the Generic QAPP.

## REFERENCES

- American Society for Testing and Materials. ASTM E1527 – 13. Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process.
- American Society for Testing and Materials. ASTM E1903 – 11. Standard Practice for Environmental Site Assessments: Phase II Environmental Site Assessment Process.
- Chapter 62-160 Florida Administrative Code, Quality Assurance.
- Chapter 62-780 Florida Administrative Code, Contaminated Site Cleanup Criteria.
- Department of Environmental Protection Standard Operating Procedures for Field activities DEP-SOP-001/01 July 30, 2014 (DEP Field SOPs).
- Department of Environmental Protection Standard Operating Procedures for Laboratory Activities DEP-SOP-002/01 February 1, 2004 (DEP Lab SOPs).
- U.S. Code of Federal Regulations CFR Title 40 – Protection of Environment.
- U.S. Environmental Protection Agency, Region 4, Generic QAPP Appendix A Checklist.
- U.S. Environmental Protection Agency. Quality Assurance Guidance for Conducting Brownfields Site Assessments. EPA 540-R-98-038. September 1998.
- U.S. Environmental Protection Agency. EPA Guidance for Quality Assurance Project Plans. EPA QA/G-5. EPA 2401R-02/009. December 2002.
- U.S. Environmental Protection Agency. EPA Requirements for Quality Assurance Project Plans. EPA QA/R-5. EPA 240-B-01-003. March 2001 (Reissued May 2006).
- U.S. Environmental Protection Agency. Data Quality Assessment: Statistical Tools for Practitioners. EPA QA/G-9S. EPA 240-B-06-003. February 2006.
- U.S. Environmental Protection Agency. EPA Guidance on Systematic Planning Using the Data Quality Objectives Process. EPA QA/G-4. EPA 240/B-06/00 I. February 2006.
- U.S. Environmental Protection Agency, Region 4, SESD, Field Branches Quality System and Technical Procedures, February 2008.
- U.S. Environmental Protection Agency, Region 4, SESD, Operating Procedure, Field Sampling Quality Control, SESDPROC-011-R4, February 2013.
- U.S. Environmental Protection Agency, Region 4, SESD, Operating Procedure, Field Equipment Cleaning and Decontamination, SESDPROC-205-R2, December 2011.

U.S. Environmental Protection Agency, Region 4, SESD, Soil Sampling, SESDPROC-300-R2, December 2011.

U.S. Environmental Protection Agency, Region 4, SESD, Waste Sampling, SESDPROC-302-R2, January 2013.

U.S. Environmental Protection Agency, Region 4, SESD, Operating Procedure, Packing, Marking, Labeling and Shipping of Environmental and Waste Samples, SESDPROC-209-R2, April 2011.

### LIST OF ABBREVIATIONS

AAI	All Appropriate Inquiry
ASTM	American Society for Testing and Materials
ATI	Ambient Technologies, Inc.
bls	Below Land Surface
ECT	Environmental Consulting & Technology, Inc.
ESA	Environmental Site Assessment
EUL	Electronic Utility Locating
FL	Florida
GPR	Ground Penetrating Radar
GPS	Global Positioning Satellite
OVA	Organic Vapor Analyzer
P.E.	Professional Engineer
P.G.	Professional Geologist
QA	Quality Assurance
QAPP	Quality Assurance Project Plan
QC	Quality Control
REC	Recognized Environmental Condition
RQAO	Regional Quality Assurance Designated Approving Official
ROW	Right-Of-Way
SOP	Standard Operating Procedure
SPT	Standard Penetration Test
SSQAPP	Site Specific Quality Assurance Project Plan
TDEM	Time Delayed Electromagnetic
USC	Unified Soil Classification
U.S. EPA	United States Environmental Protection Agency
USGS	United States Geological Survey

## **Figures**

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### **Figure 1: Proposed Groundwater Monitoring Well Locations**

OCPA Web Map

Major Roads	Proposed Road	Block Line	Commercial/Institutional	Hydro	Golf Course
Florida Turnpike	Public Road	Brick Road	Governmental/Institutional/Misc	Waste Land	Lake and Rivers
Interstate 4	Gated Roads	Rail Road	Commercial/Industrial/Vacant Land	County Boundary	Building
Toll Road	Road Under Construction	Proposed SunRail	Agriculture	Parks	Hospital

Courtesy Rick Singh, CFA, Orange County Property Appraiser



x - monitoring well

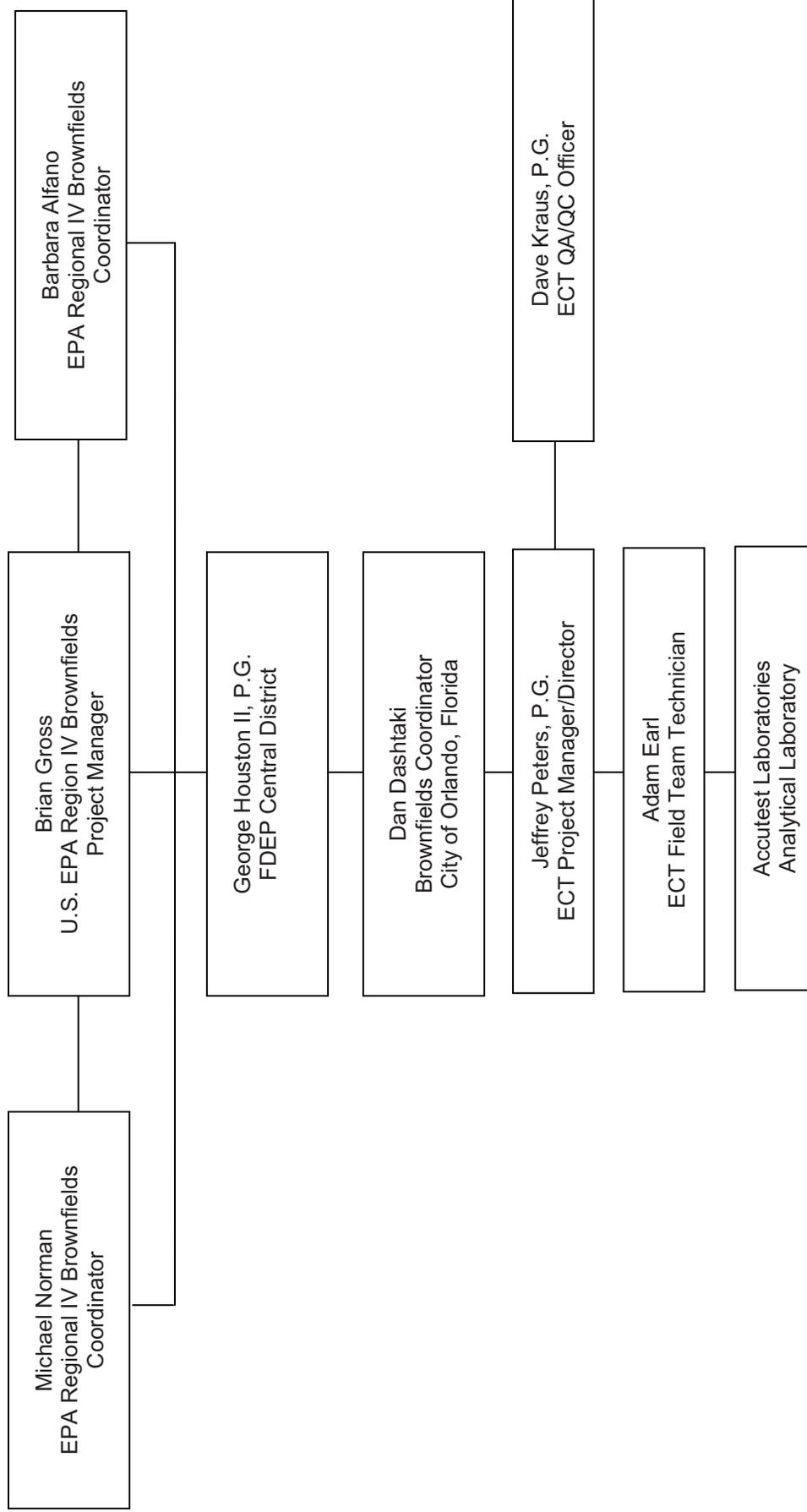
Groundwater Flow Direction

Approximate locations of former USDA Entomology laboratories

**Attachment A**  
**Quality Assurance Project Organization Chart**

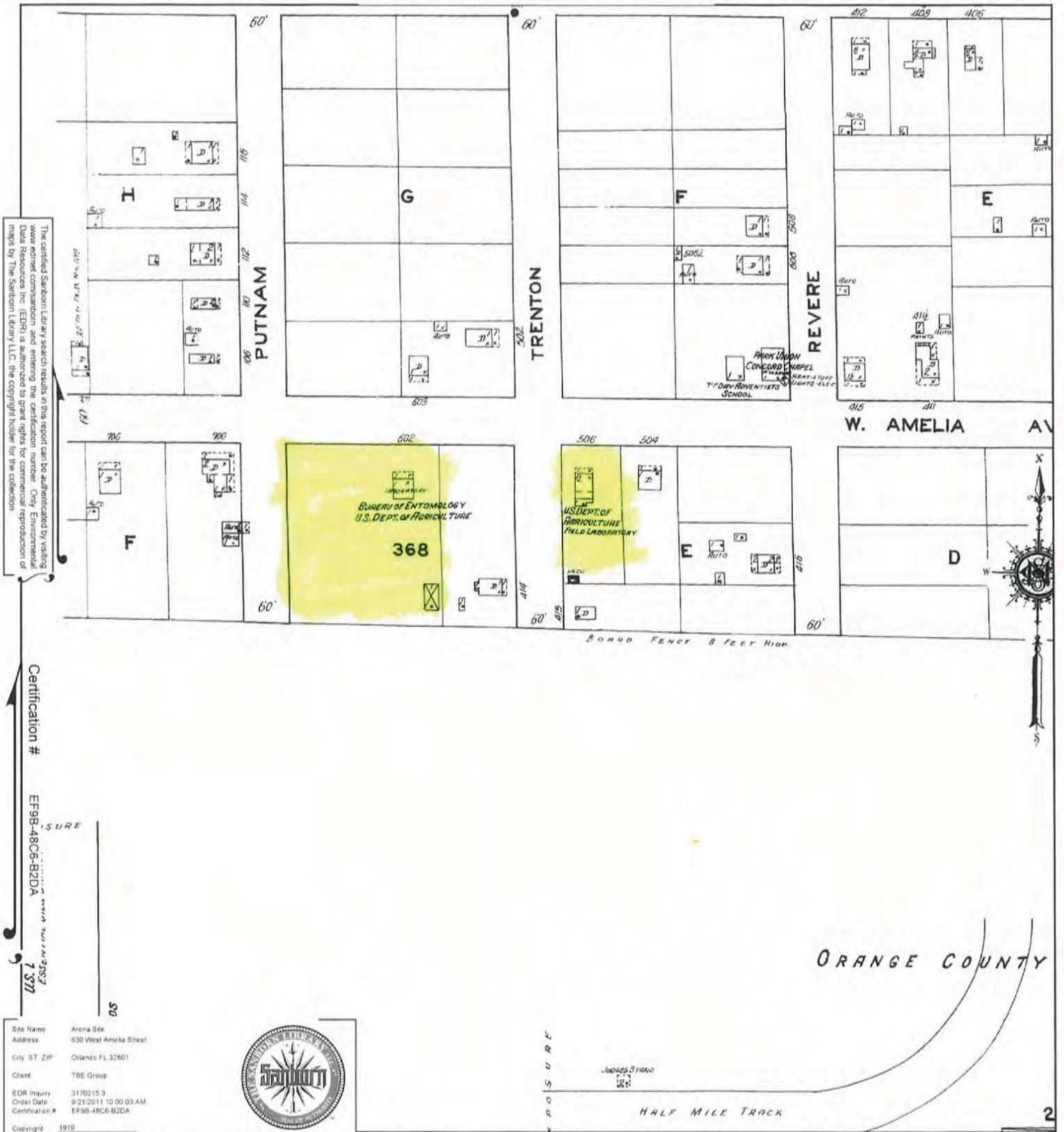
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### City of Orlando, Florida Quality Assurance Project Organization Chart



## **APPENDIX C**

# 1919 Certified Sanborn Map



The certified Sanborn Library search results in this report can be authenticated by visiting [www.edri.com](http://www.edri.com) and entering the certification number. Only Environmental Data Resources Inc. (EDRI) is authorized to grant rights for commercial reproduction of maps by The Sanborn Library LLC, the copyright holder for the collection.

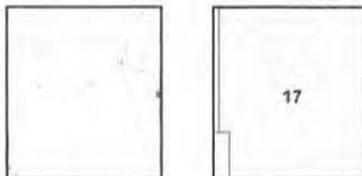
Certification #

EF9B-48C6-B2DA  
1377

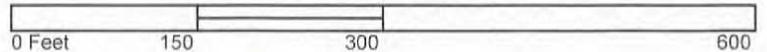
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 City, ST, ZIP: Orlando, FL, 32801  
 Client: TBE Group  
 EDR Inquiry: 3170215-3  
 Order Date: 9/21/2011 10:00:03 AM  
 Certification #: EF9B-48C6-B2DA  
 Copyright: 1919



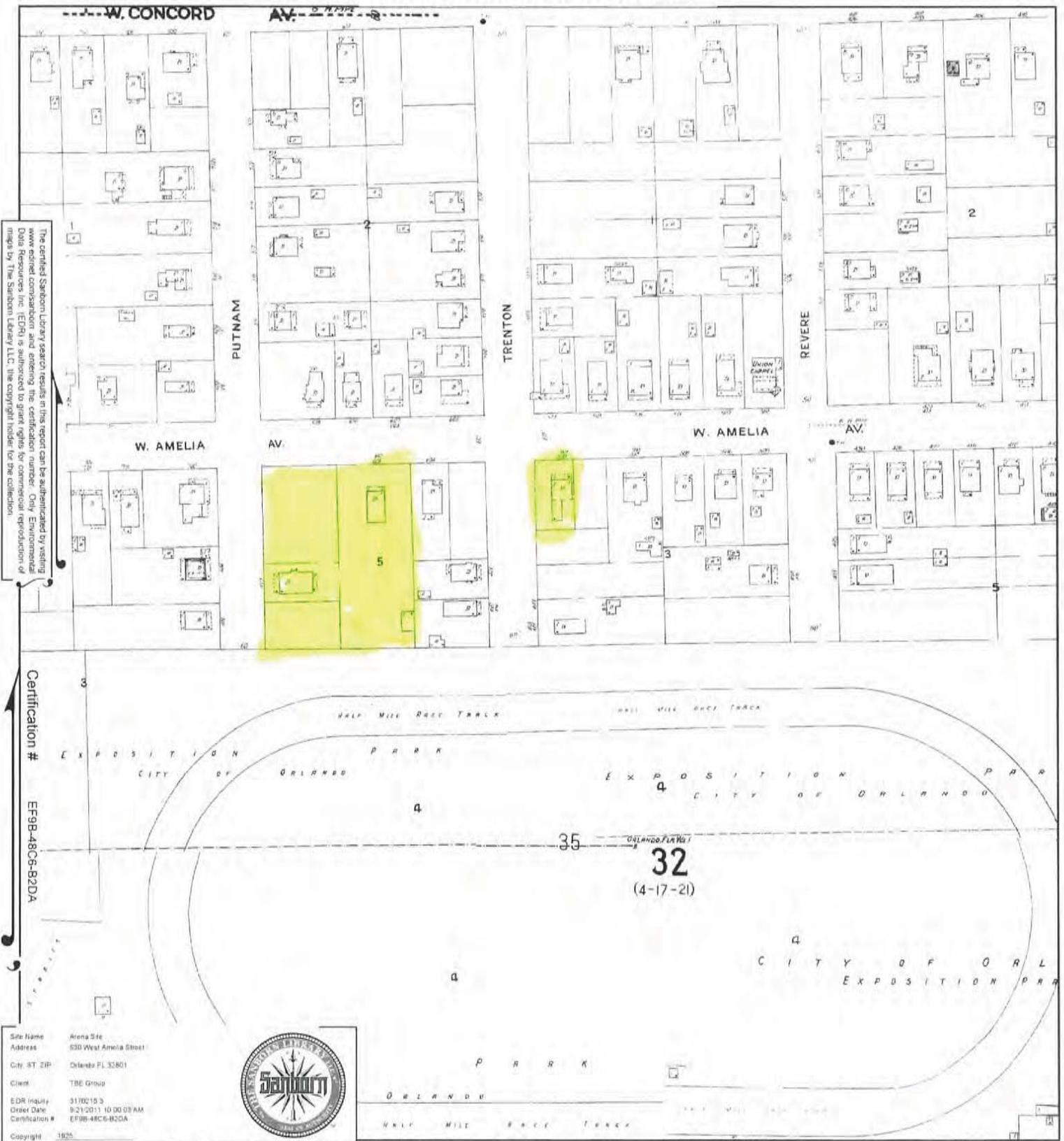
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Volume 1, Sheet 17



# 1925 Certified Sanborn Map



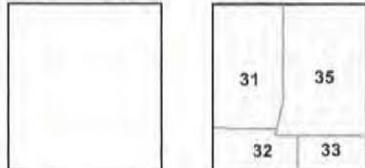
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Certification # EF98-48C6-82DA

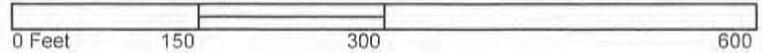
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 Copyright: 1925



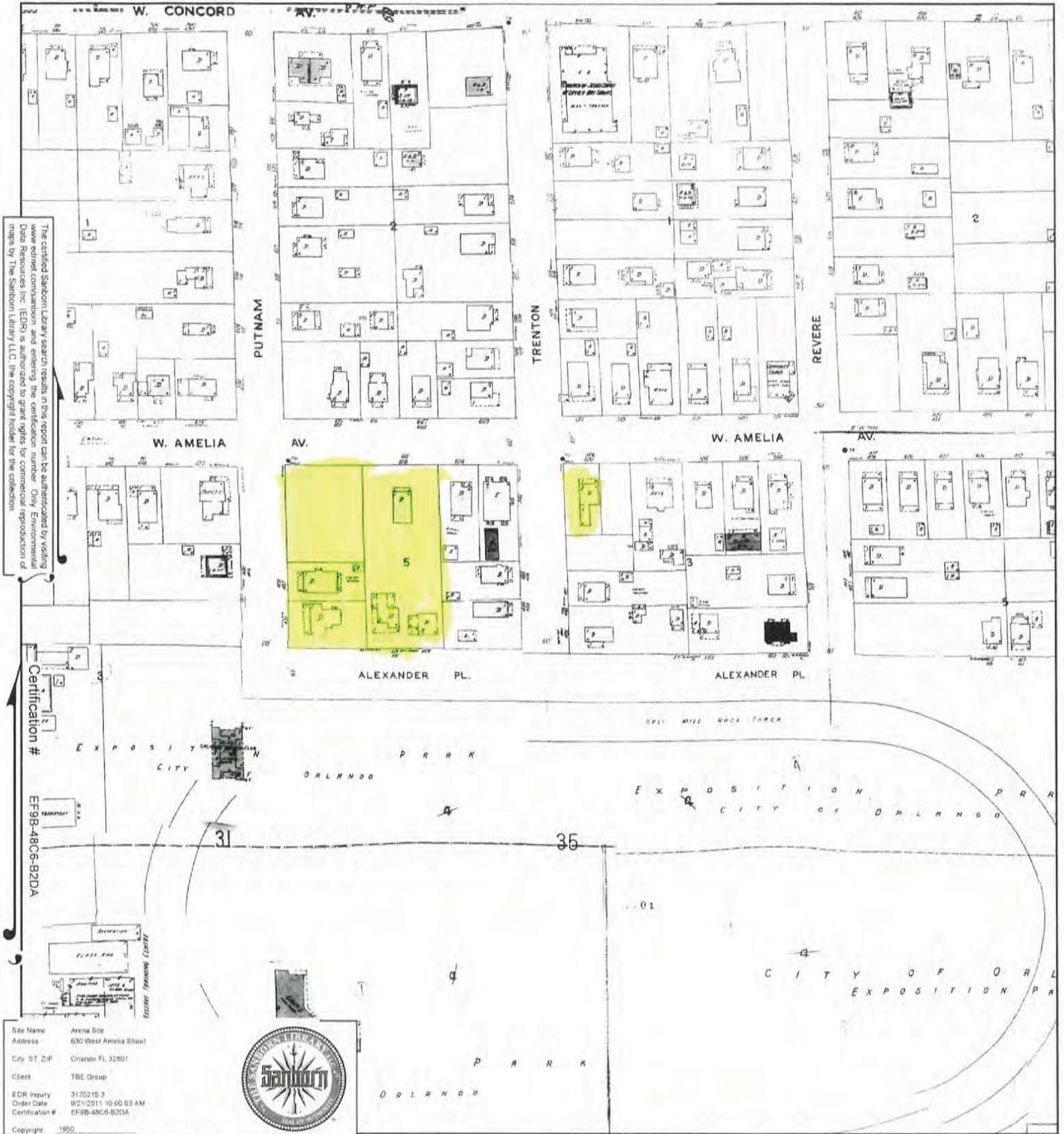
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- Volume 1 & 2, Sheet 32
- Volume 1 & 2, Sheet 33
- Volume 1 & 2, Sheet 35



# 1950 Certified Sanborn Map



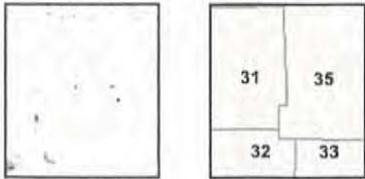
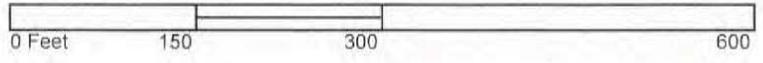
The certified Sanborn Library search results in this report can be authenticated by visiting [www.enr.com/sanborn](http://www.enr.com/sanborn) and entering the certification number. Only Environmental Data Resources Inc. (EDRI) is authorized to grant rights for commercial reproduction of maps by The Sanborn Library LLC, the copyright holder for the collection.

Certification # EF9B-4806-B2DA

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 Address: 630 West Amelia Street  
 City ST ZIP: Orlando FL 32801  
 Client: TBE Group  
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 Order Date: 9/21/2011 10:00:33 AM  
 Certification #: EF9B-4806-B2DA  
 Copyright: 1950



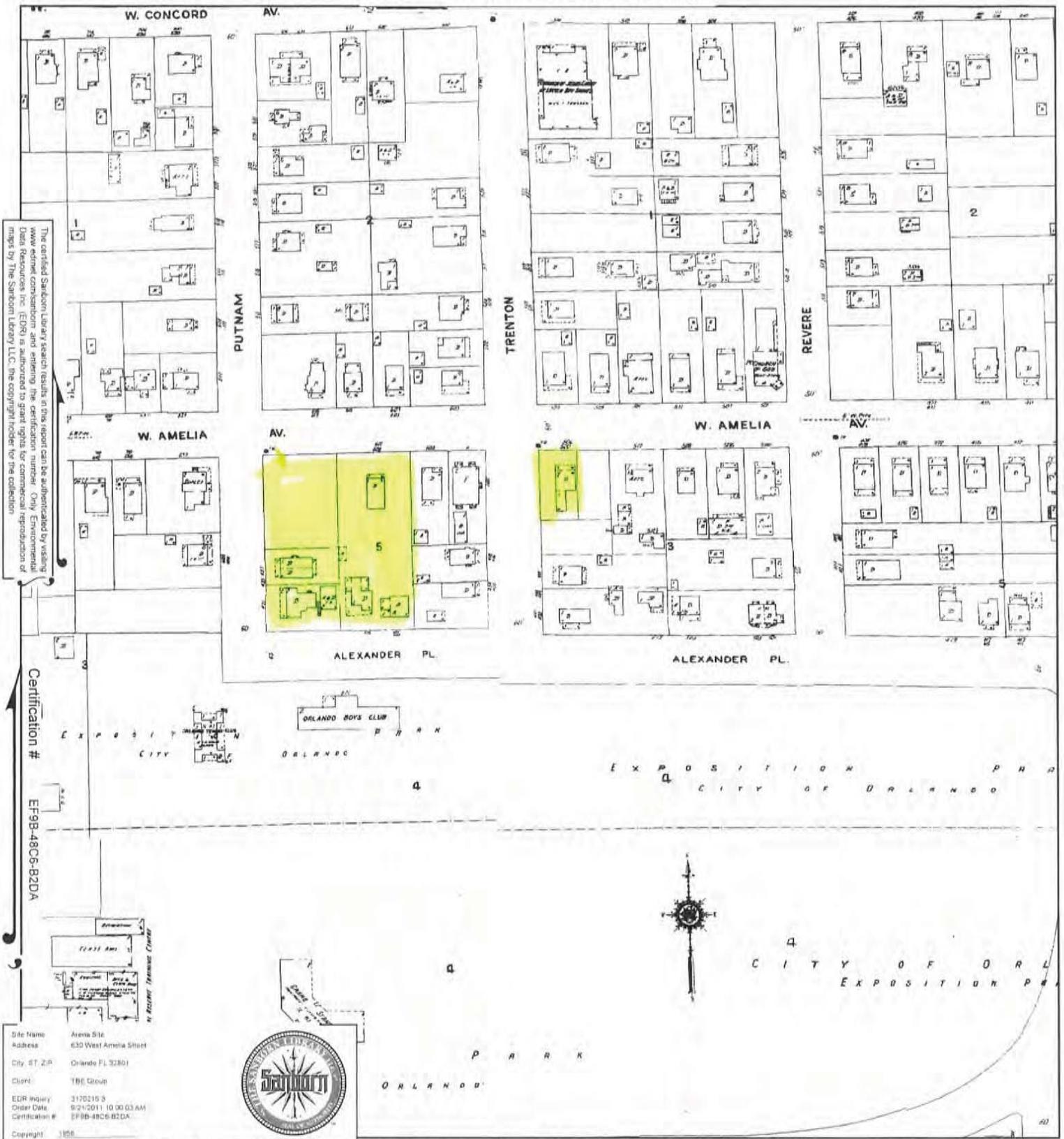
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- Volume 1, Sheet 33
- Volume 1, Sheet 35



# 1956 Certified Sanborn Map



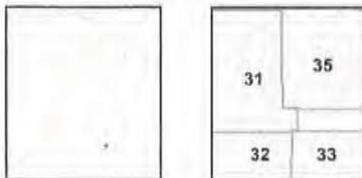
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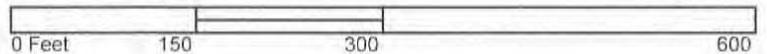
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 Copyright: 1956



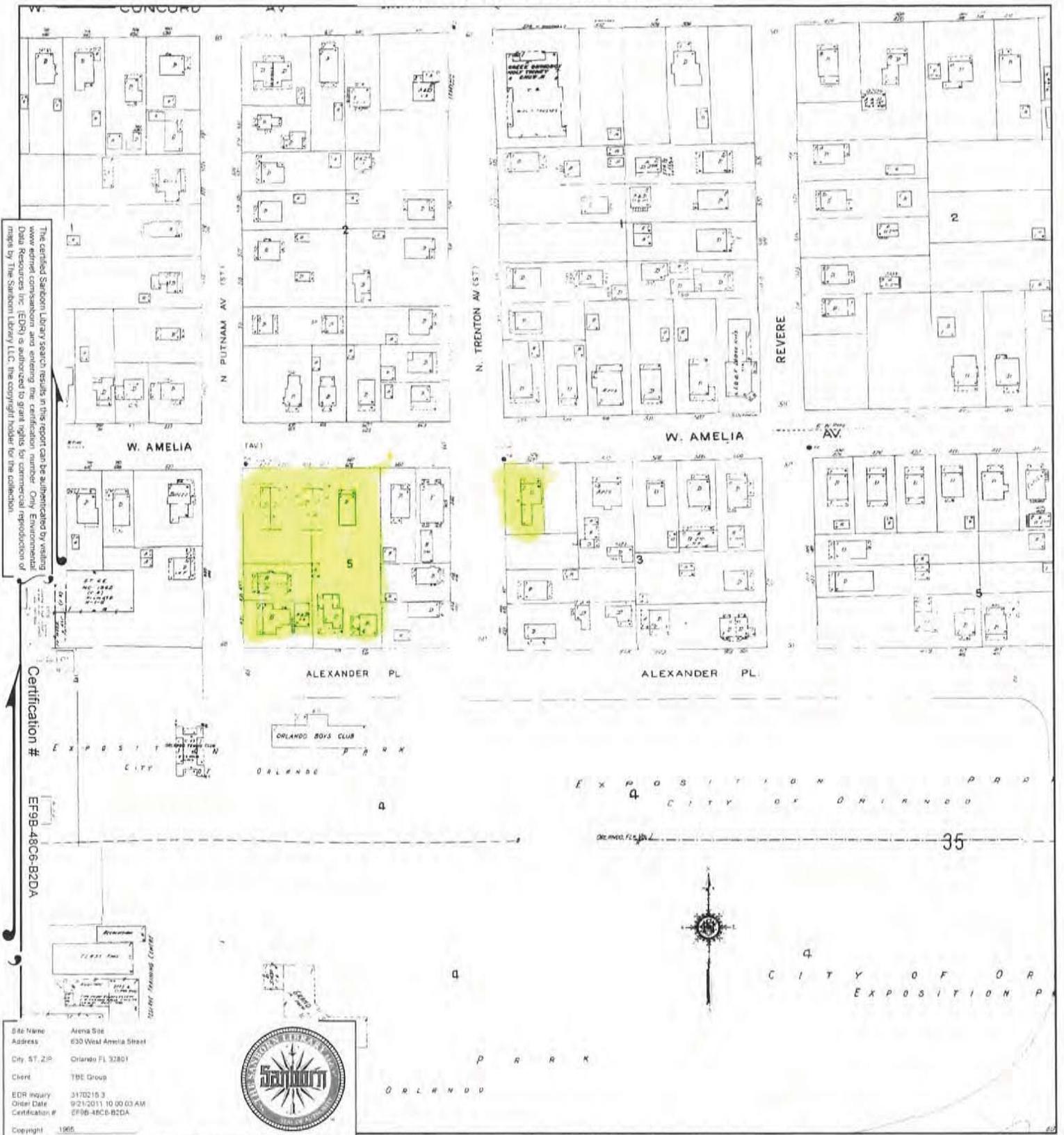
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- Volume 1, Sheet 35



# 1965 Certified Sanborn Map



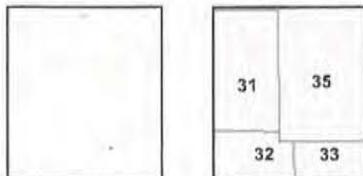
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Certification # EF9B-48C6-B2DA

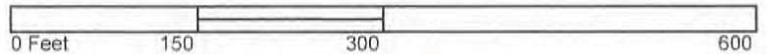
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 City, ST, ZIP: Orlando FL 32801  
 Client: TBE Group  
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 Order Date: 9/21/2011 10:00:03 AM  
 Certification #: EF9B-48C6-B2DA  
 Copyright: 1965



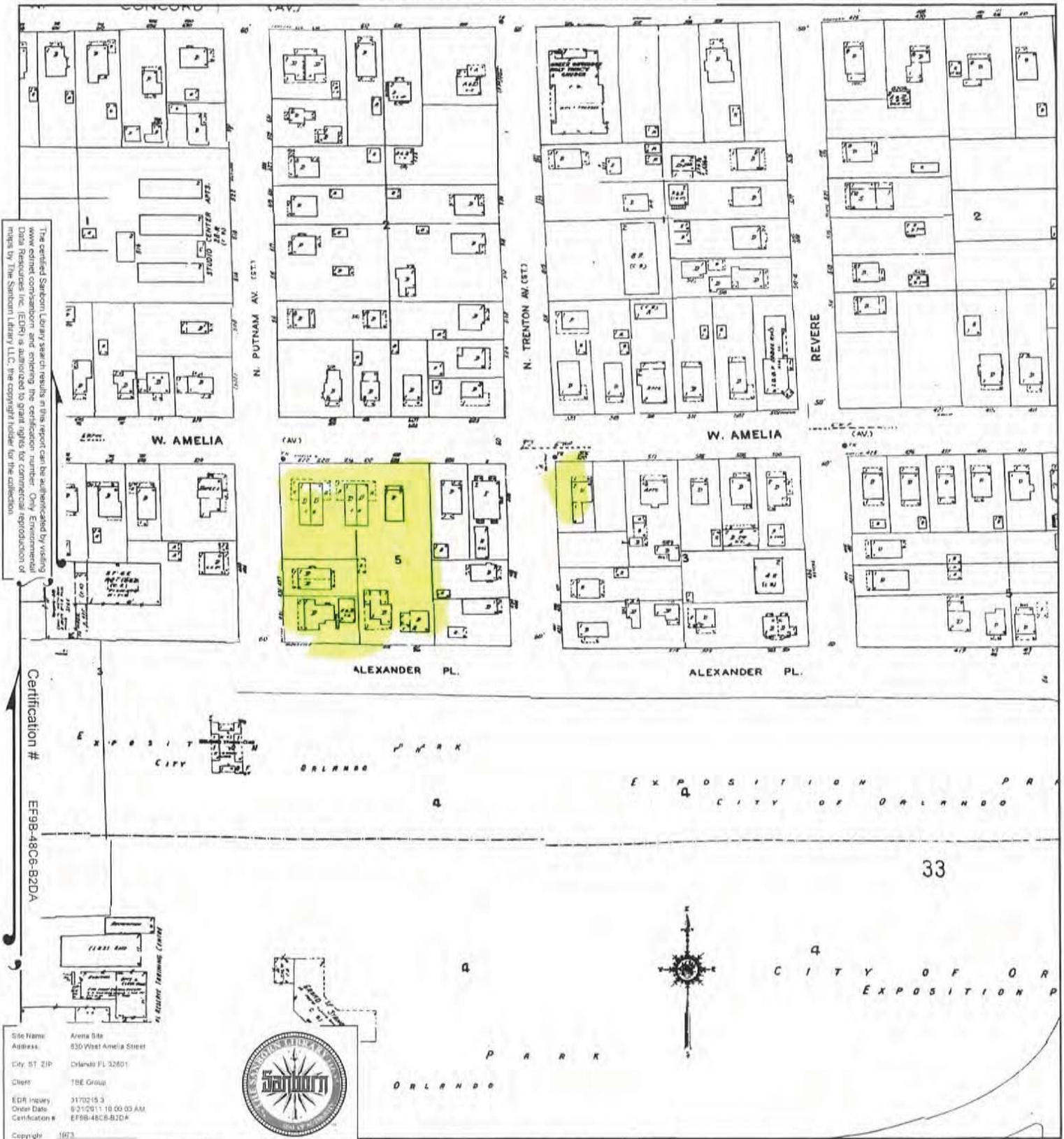
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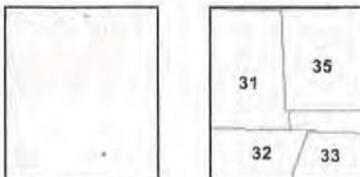
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- Volume 1, Sheet 32
- Volume 1, Sheet 33
- Volume 1, Sheet 35



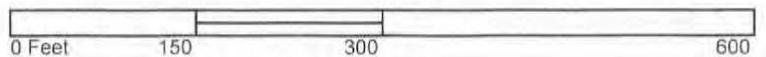
# 1973 Certified Sanborn Map



This Certified Sanborn Map combines the following sheets.  
 Outlined areas indicate map sheets within the collection.



- Volume 1, Sheet 31
- Volume 1, Sheet 32
- Volume 1, Sheet 33
- Volume 1, Sheet 35





**INQUIRY #:** 3666506.5

**YEAR:** 1984

 = 500'





INQUIRY #: 3666506.5

YEAR: 1994

| = 500'



## **APPENDIX D**

## WELL COMPLETION LOG

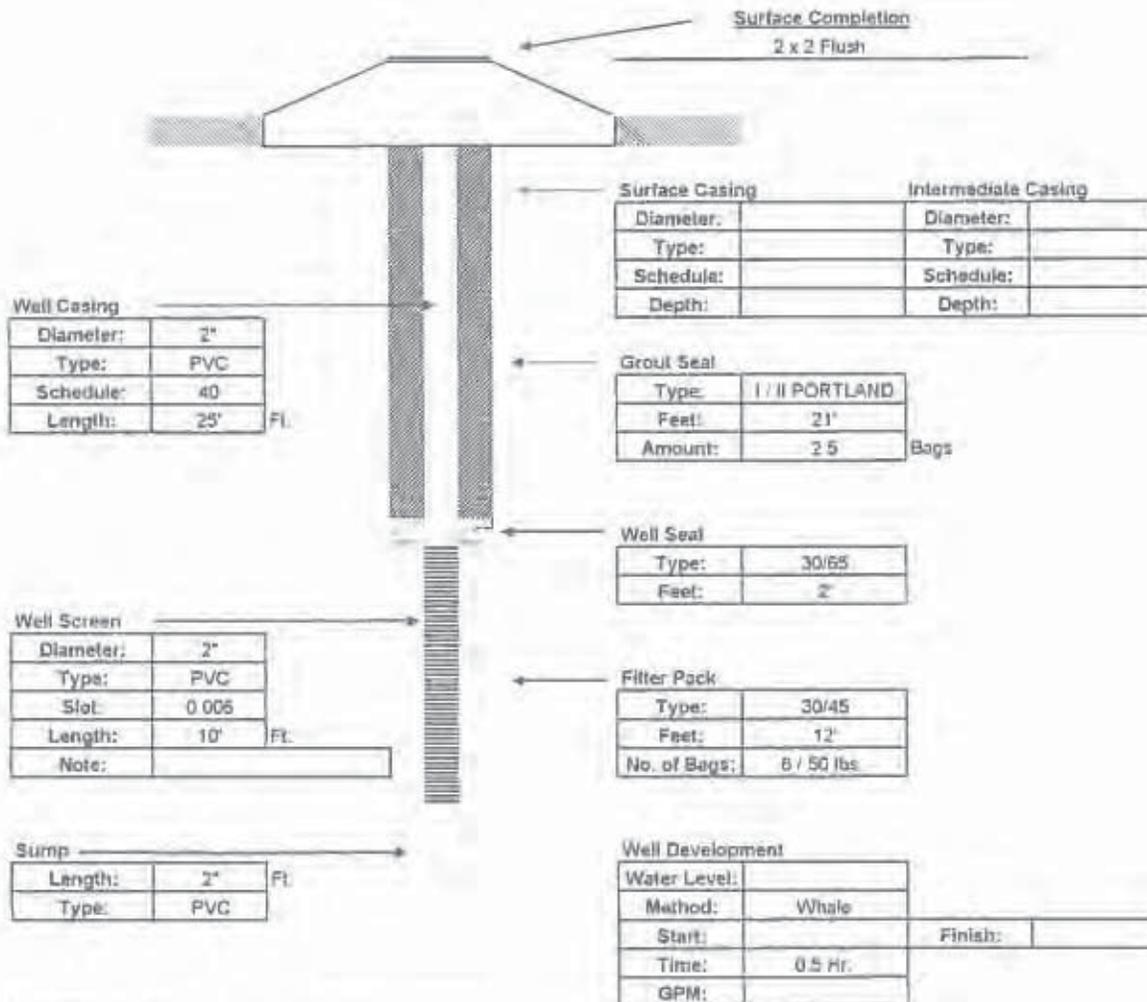
Water Mgmt. Dist:  
Permit Number:

Work Order: 1014032  
Type of Well: Monitor  
Well Number: MW 1  
Method Used: H S A  
Borehole Diaz: 8.25'

Site Information:

Name: City of Orlando  
Address: 630 W. Amelia St  
C.S.Z: Orlando, FL  
S/T/R:  
Client / Consultant Information:  
Consultant: ECT  
Field Rep: Adam Earl

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
2"	PVC	35'	10'	25'	2.5	8 / 50 lbs	30/45	30/65
40 ←	Schedule	Slot Size →	0.005		21'	← Feet →	12'	2"



Contractor Information

Contractor #:	8311
Completion:	10/13/2014
Driller:	Christian Dodd
Lead Hand:	Tim Elstaaz
3rd Man:	Tyler Milliner
Drill Rig:	7822B

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3210
Phone/FAX:	(407) 426-7885 / (407) 426-7586

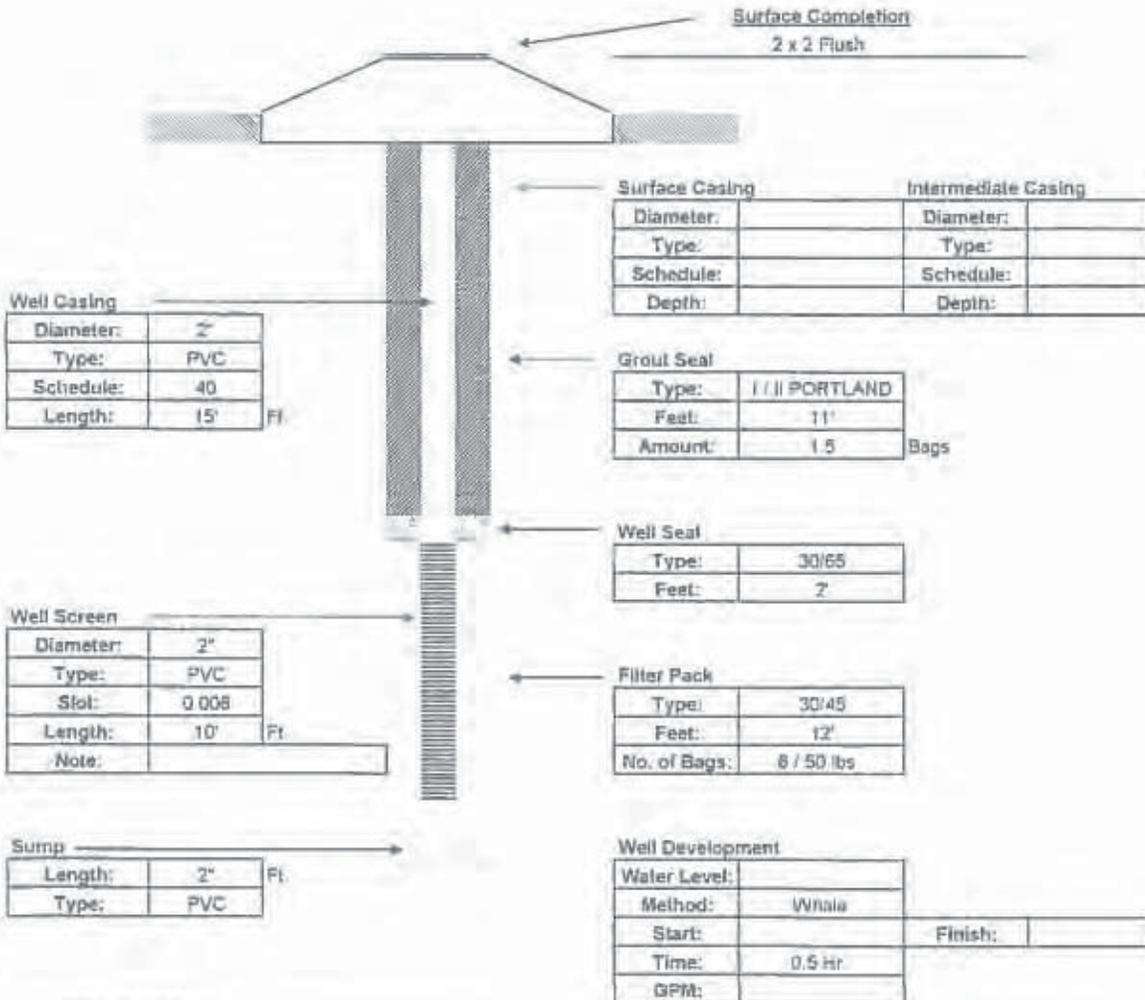
## WELL COMPLETION LOG

Water Mgmt. Dist.:  
 Permit Number:

Work Order: 101-032  
 Type of Well: Monitor  
 Well Number: MW 2  
 Method Used: H.S.A.  
 Borehole Dia: 8.25"

**Site Information:**  
 Name: City of Orlando  
 Address: 630 W. Amelia St.  
 C.S.Z: Orlando, FL  
 S/T/R:  
**Client / Consultant Information**  
 Consultant: ECT  
 Field Rep: Adam Earl

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
2"	PVC	25'	10'	15'	1.5	6 / 50 lbs.	30/45	30/65
40 ←	Schedule Slot Size		0.008		11'	← Feet →	12'	2'



Contractor Information	
Contractor #:	9311
Completion:	10/13/2014
Driller:	Christian Dodd
Lead Hand:	Tim Elszasz
3rd Man:	Tyler Milliner
Drill Rig:	7822B

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3316
Phone/FAX:	(407) 426-7885 / (407) 426-7886

## WELL COMPLETION LOG

Water Mgmt. Dist.:  
Permit Number:

Work Order: 1014032  
Type of Well: Monitor  
Well Number: MW 3  
Method Used: H.S.A.  
Borehole Dia: 8.25"

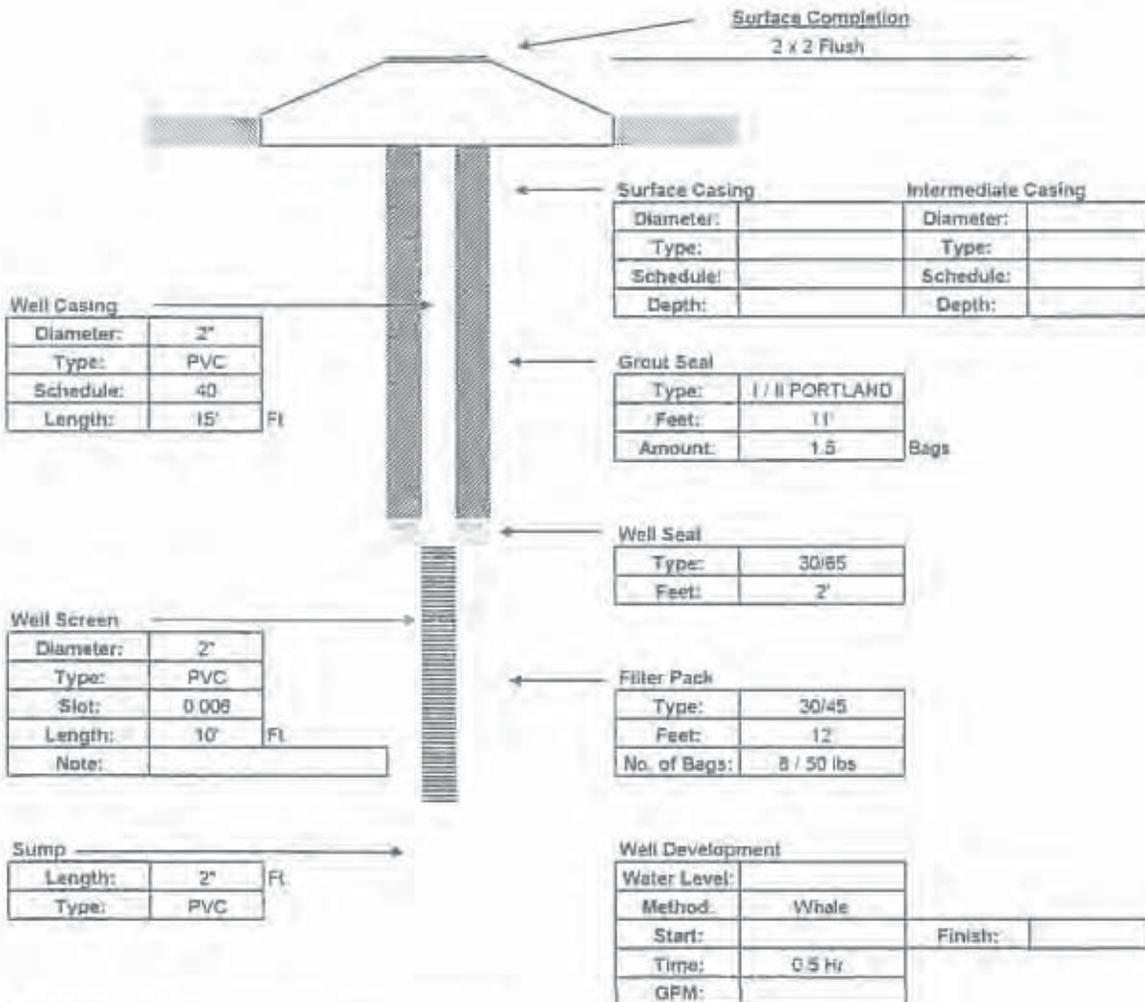
Site Information:

Name: City of Orlando  
Address: 630 W. Amelia St.  
C.S.Z.: Orlando, Fl.  
S/T/R:

Client / Consultant Information

Consultant: ECT  
Field Rep: Adam Earl

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
2"	PVC	25'	10'	15'	1.5	8 / 50 lbs	30/45	30/65
40 ←	Schedule	Slot Size →	0.008		11' ←	Feet →	12'	2'



Contractor Information

Contractor #:	9311
Completion:	10/13/2014
Driller:	Christian Dodd
Lead Hand:	Tim Elszasz
3rd Man:	Tyler Milliner
Drill Rig:	7822B

Company:	Drillpro LLC d/b/a Groundwater Protection		
Address:	2300 Silver Star Road		
C.S.Z.:	Orlando, Florida 32804-3310		
Phone/FAX:	(407) 426-7886 / (407) 426-7588		

## WELL COMPLETION LOG

Water Mgmt. Dist. \_\_\_\_\_

Permit Number: \_\_\_\_\_

Work Order: 1014032

Type of Well: Monitor

Well Number: MW 4

Method Used: H.S.A.

Borehole Diaz: 8.25"

Site Information:

Name: City of Orlando

Address: 530 W. Amelia St.

C.S.Z: Orlando, FL

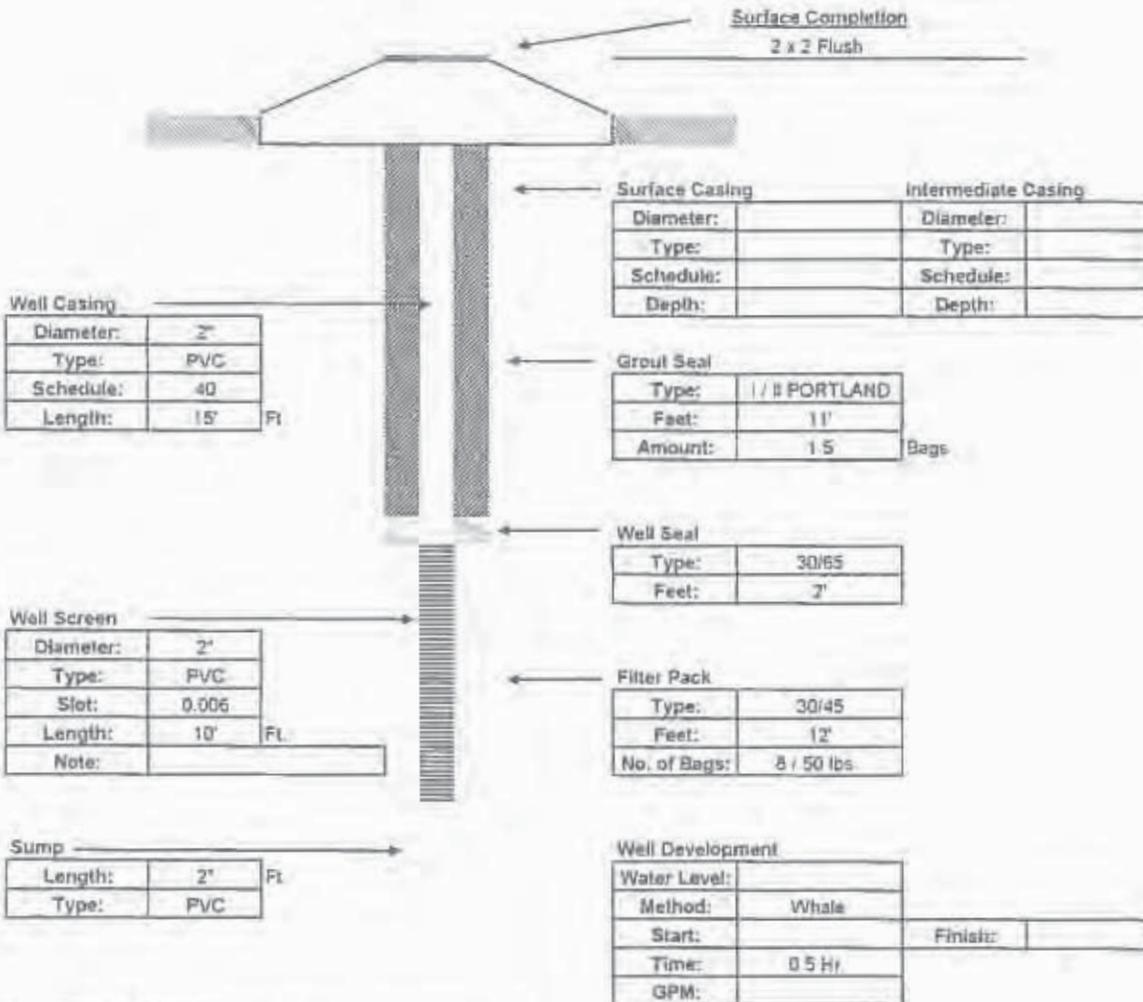
S/T/R: \_\_\_\_\_

Client / Consultant Information

Consultant: ECT

Field Rep: Adam Earl

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags GROUT	Sand Bags/Weight	Filter Type	Well Seal
2"	PVC	25'	10'	15'	1.5	8 / 50 lbs	30/45	30/65
40	← Schedule Slot Size →		0.006		11'	← Feet →	12'	2'



Contractor Information

Contractor #:	9311
Completion:	10/13/2014
Driller:	Christian Dodd
Lead Hand:	Tim Elszasz
3rd Man:	Tyler Milliner
Drill Rig:	78228

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C.S.Z:	Orlando, Florida 32804-3310
Phone/FAX:	(407) 426-7865 / (407) 426-7586

## WELL COMPLETION LOG

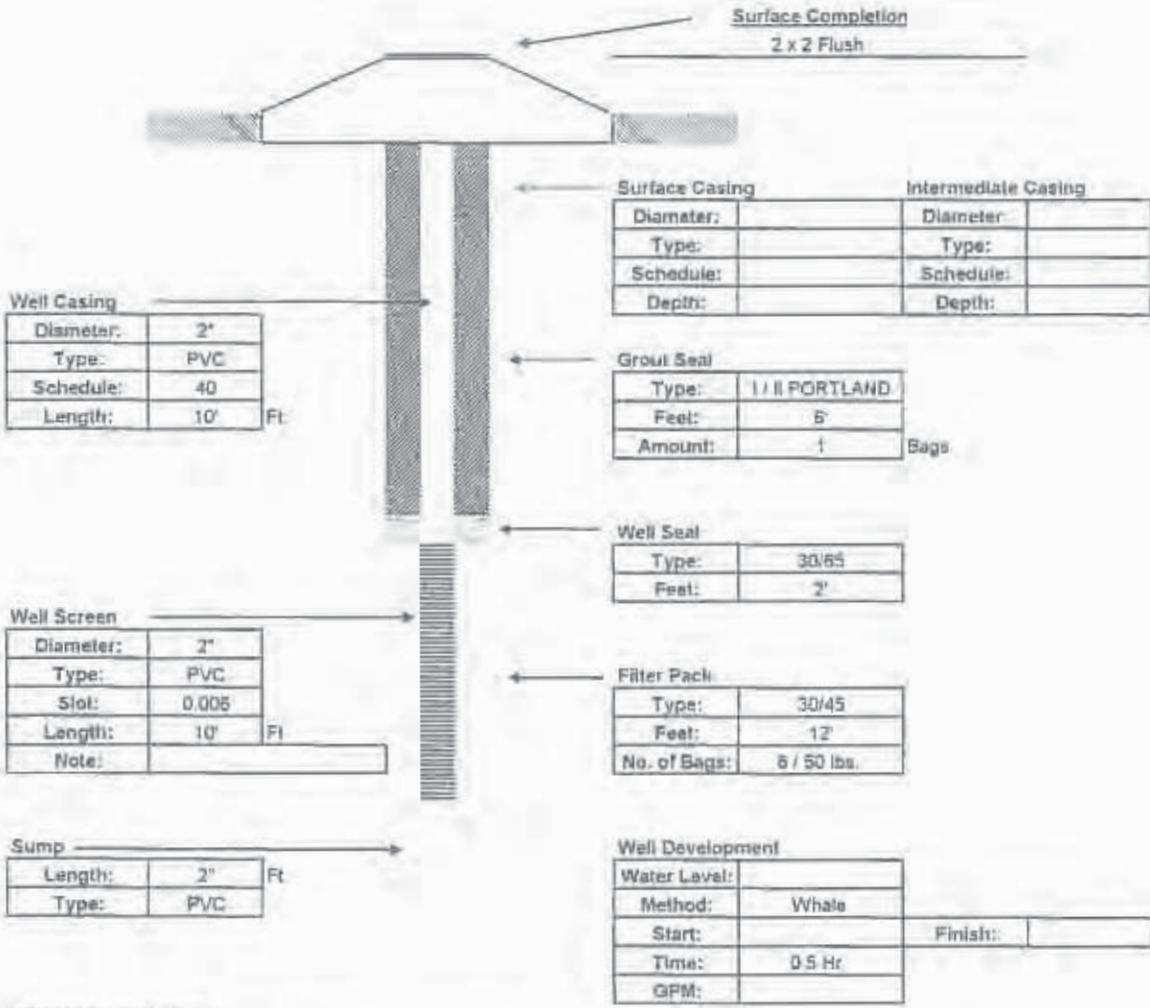
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 Borehole Diaz: 8.25"

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 Address: 630 W. Amelia St.  
 C,S,Z: Orlando, FL  
 S/T/R: \_\_\_\_\_

Client / Consultant Information  
 Consultant: ECT  
 Field Rep: Adam Earl

Well Diameter	Well Type	Well Depth	Screen Length	Casing Length	Bags Grout	Sand Bags/Weight	Filter Type	Well Seal
2"	PVC	20'	10'	10'	1	8 / 50 lbs	30/45	30/65
40	Schedule	Slot Size	0.006		6'	Feet	12'	2'



**Contractor Information**

Contractor #:	9311
Completion:	10/13/2014
Driller:	Christian Dodd
Lead Hand:	Tim Elaszcz
3rd Man:	Tyler Millner
Drill Rig:	7622B

Company:	Drillpro LLC d/b/a Groundwater Protection
Address:	2300 Silver Star Road
C,S,Z:	Orlando, Florida 32804-3340
Phone/FAX:	(407) 426-7895 / (407) 426-7586

XXXXXXXXXX

Orange County Health Department  
800 N. Mercy Dr., Suite 1 Orlando, FL 32808  
Phone 407 -521-2630

Permit # 140665 Fee : \$200.00  
Date Issued 10/10/2014  
Well Location 630 W Amelia St  
S 26 T 22 R 29 Orlando

Permit for: **New Well Construction**  
Primary Use: *Monitoring*  
Issued to

Groundwater Protection Lic # 9311  
James Hinst  
2300 Silver Star Rd  
Orlando FL 32804

Well must meet all required setbacks  
Authority Chapter 36-A Orange County Well Code

Construction Specifics

Drilling Meth:	Type Well:
Annular Mat:	Casing Mat:
Casing joined by	Well Diameter 2 in
Grout:	Casing depth 10 ft
Pump Type:	Exceed 75psi No
Tank Type:	Electric No
Deaerated:	

STATE OF FLORIDA WELL COMPLETION REPORT



- Southwest
- Northwest
- St. Johns River
- South Florida
- Suwannee River
- DEP
- Delegated Authority (if Applicable)

PLEASE FILL OUT ALL APPLICABLE FIELDS  
 (\* Denotes Required Fields Where Applicable)

Drill Stamp

Orange County

Official Use Only

1 \* Permit Number 140665 CUPWLP No. \_\_\_\_\_ DID Number \_\_\_\_\_ 82-524 Delineation No. \_\_\_\_\_  
 2 \* Number of permitted wells constructed, repaired, or abandoned 1 \* Number of permitted wells not constructed, repaired, or abandoned 0  
 3 \* Owner's Name City of Orlando 4 \* Completion Date 10/13/2014 5 Florida Unique ID \_\_\_\_\_

6 630 W. Amelia Street - Orlando  
 \* Well Location - Address, Road Name or Number, City, ZIP

7 \* County Orange \* Section 26 Land Grant \_\_\_\_\_ \* Township 22 \* Range 29

8 Latitude \_\_\_\_\_ Longitude \_\_\_\_\_

9 Data Obtained From: \_\_\_\_\_ GPS \_\_\_\_\_ Map \_\_\_\_\_ Survey \_\_\_\_\_ Datum: NAD 27 NAD 83 WGS 84

10 \* TYPE OF WORK:  Construction \_\_\_\_\_ Repair \_\_\_\_\_ Modification \_\_\_\_\_ Abandonment \_\_\_\_\_

11. Specify Intended Use(s) of Well(s):  
 Domestic \_\_\_\_\_ Landscape Irrigation \_\_\_\_\_ Agricultural Irrigation \_\_\_\_\_ Site Investigation \_\_\_\_\_  
 Bottled Water Supply \_\_\_\_\_ Recreation Area Irrigation \_\_\_\_\_ Livestock \_\_\_\_\_  Monitoring \_\_\_\_\_  
 Public Water Supply (Limited Use/Drift) \_\_\_\_\_ Nursery Irrigation \_\_\_\_\_ Test \_\_\_\_\_  
 Public Water Supply (Community or from Community/DEP) \_\_\_\_\_ Commercial/Industrial \_\_\_\_\_ Earth - Coupled Geotechnical \_\_\_\_\_  
 Class I Injection \_\_\_\_\_ Golf Course Irrigation \_\_\_\_\_ HVAC Supply \_\_\_\_\_  
 \_\_\_\_\_ HVAC Return \_\_\_\_\_  
 Class V Injection \_\_\_\_\_ Recharge \_\_\_\_\_ Commercial/Industrial Disposal \_\_\_\_\_ Aquifer Storage & Recovery \_\_\_\_\_ Drainage \_\_\_\_\_  
 Remediation \_\_\_\_\_ Recovery \_\_\_\_\_ Air Sparge \_\_\_\_\_ Other (Describe) \_\_\_\_\_  
 Other (Describe) \_\_\_\_\_

12 \* Drill Method  Auger \_\_\_\_\_ Cable Tool \_\_\_\_\_ Rotary \_\_\_\_\_ Combination (Two or More Methods) \_\_\_\_\_ Jettied \_\_\_\_\_ Sonic \_\_\_\_\_  
 \_\_\_\_\_ Horizontal Drilling \_\_\_\_\_ Hydraulic Point (Direct Push) \_\_\_\_\_ Other \_\_\_\_\_

13 \* Measured Static Water Level \_\_\_\_\_ ft. Measured Pumping Water Level NA ft. After NA hours at NA GPM

14 \* Measuring Point (Describe) Land Surface Which is 0 ft. \_\_\_\_\_ Above \_\_\_\_\_ Below Land Surface \* Flowing \_\_\_\_\_ Yes  No \_\_\_\_\_

15 \* Casing Material \_\_\_\_\_ Black Steel \_\_\_\_\_ Galvanized \_\_\_\_\_  PVC \_\_\_\_\_ Stainless Steel \_\_\_\_\_ Not Cased \_\_\_\_\_ Other \_\_\_\_\_

16 \* Total Well Depth 20 ft. Cased Depth 10 ft. Open Hole From NA to NA ft. Screen From 10 to 20 ft. Slot Size 0.006

\* ABANDONMENT OTHER (Explain) \_\_\_\_\_  
 From \_\_\_\_\_ ft. To \_\_\_\_\_ ft. No of Bags \_\_\_\_\_ Seal Material (Check One) \_\_\_\_\_ Neat Cement \_\_\_\_\_ Bentonite \_\_\_\_\_ Other \_\_\_\_\_  
 From \_\_\_\_\_ ft. To \_\_\_\_\_ ft. No of Bags \_\_\_\_\_ Seal Material (Check One) \_\_\_\_\_ Neat Cement \_\_\_\_\_ Bentonite \_\_\_\_\_ Other \_\_\_\_\_  
 From \_\_\_\_\_ ft. To \_\_\_\_\_ ft. No of Bags \_\_\_\_\_ Seal Material (Check One) \_\_\_\_\_ Neat Cement \_\_\_\_\_ Bentonite \_\_\_\_\_ Other \_\_\_\_\_  
 From \_\_\_\_\_ ft. To \_\_\_\_\_ ft. No of Bags \_\_\_\_\_ Seal Material (Check One) \_\_\_\_\_ Neat Cement \_\_\_\_\_ Bentonite \_\_\_\_\_ Other \_\_\_\_\_  
 From \_\_\_\_\_ ft. To \_\_\_\_\_ ft. No of Bags \_\_\_\_\_ Seal Material (Check One) \_\_\_\_\_ Neat Cement \_\_\_\_\_ Bentonite \_\_\_\_\_ Other \_\_\_\_\_

\* SURFACE CASING DIAMETER & DEPTH  
 Diam \_\_\_\_\_ in. From \_\_\_\_\_ ft. To \_\_\_\_\_ ft. # of bags \_\_\_\_\_ Seal Material (Check One) \_\_\_\_\_ Neat Cement \_\_\_\_\_ Bentonite \_\_\_\_\_ Other \_\_\_\_\_  
 Diam \_\_\_\_\_ in. From \_\_\_\_\_ ft. To \_\_\_\_\_ ft. # of bags \_\_\_\_\_ Seal Material (Check One) \_\_\_\_\_ Neat Cement \_\_\_\_\_ Bentonite \_\_\_\_\_ Other \_\_\_\_\_

\* PRIMARY CASING DIAMETER & DEPTH  
 Diam 2 in. From 0 ft. To 6 ft. # of bags 1 Seal Material (Check One)  Neat Cement \_\_\_\_\_ Bentonite \_\_\_\_\_ Other \_\_\_\_\_  
 Diam \_\_\_\_\_ in. From \_\_\_\_\_ ft. To \_\_\_\_\_ ft. # of bags \_\_\_\_\_ Seal Material (Check One) \_\_\_\_\_ Neat Cement \_\_\_\_\_ Bentonite \_\_\_\_\_ Other \_\_\_\_\_  
 Diam \_\_\_\_\_ in. From \_\_\_\_\_ ft. To \_\_\_\_\_ ft. # of bags \_\_\_\_\_ Seal Material (Check One) \_\_\_\_\_ Neat Cement \_\_\_\_\_ Bentonite \_\_\_\_\_ Other \_\_\_\_\_

\* LINER CASING DIAMETER & DEPTH  
 Diam \_\_\_\_\_ in. From \_\_\_\_\_ ft. To \_\_\_\_\_ ft. # of bags \_\_\_\_\_ Seal Material (Check One) \_\_\_\_\_ Neat Cement \_\_\_\_\_ Bentonite \_\_\_\_\_ Other \_\_\_\_\_  
 Diam \_\_\_\_\_ in. From \_\_\_\_\_ ft. To \_\_\_\_\_ ft. # of bags \_\_\_\_\_ Seal Material (Check One) \_\_\_\_\_ Neat Cement \_\_\_\_\_ Bentonite \_\_\_\_\_ Other \_\_\_\_\_

\* TELESCOPE CASING DIAMETER & DEPTH  
 Diam \_\_\_\_\_ in. From \_\_\_\_\_ ft. To \_\_\_\_\_ ft. # of bags \_\_\_\_\_ Seal Material (Check One) \_\_\_\_\_ Neat Cement \_\_\_\_\_ Bentonite \_\_\_\_\_ Other \_\_\_\_\_  
 Diam \_\_\_\_\_ in. From \_\_\_\_\_ ft. To \_\_\_\_\_ ft. # of bags \_\_\_\_\_ Seal Material (Check One) \_\_\_\_\_ Neat Cement \_\_\_\_\_ Bentonite \_\_\_\_\_ Other \_\_\_\_\_

PUMP TYPE (If Known) \_\_\_\_\_ Centrifugal \_\_\_\_\_ Jet \_\_\_\_\_ Submersible \_\_\_\_\_ Turbine \_\_\_\_\_  
 Horsepower \_\_\_\_\_ Pump Capacity (GPM) \_\_\_\_\_  
 Pump depth \_\_\_\_\_ ft. Intake Depth \_\_\_\_\_ ft.  
 CHEMICAL ANALYSIS (When Required)  
 Iron \_\_\_\_\_ ppm Sulfate \_\_\_\_\_ ppm Chloride \_\_\_\_\_ ppm  
 Laboratory Test \_\_\_\_\_ Field Test Kit \_\_\_\_\_

\* Contractor Name James Hinst \* License No. 9311 Email Address Jim@drillproinc.com

\* Contractor's Signature James Hinst \* Driller's Name Christian Dodd

I certify that the information on this report is accurate & true.

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT  
 2375 BROAD STREET, BROOKSVILLE, FL 34604-6899  
 PHONE (352) 796-7211 OR (800) 423-1476  
[WWW.SWFWMD.STATE.FL.US](http://WWW.SWFWMD.STATE.FL.US)

SOUTH FLORIDA WATER MANAGEMENT DISTRICT  
 P.O. BOX 24680  
 3301 GUN CLUB ROAD  
 WEST PALM BEACH, FL 33416-4680  
 PHONE (561) 886-8800  
[WWW.SFWMD.GOV](http://WWW.SFWMD.GOV)

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT  
 4049 REID STREET, PALATKA, FL 32178-1427  
 PHONE (386) 329-4500  
[WWW.SJRWMD.COM](http://WWW.SJRWMD.COM)

SUWANNEE RIVER WATER MANAGEMENT DISTRICT  
 9225 CR 49  
 LIVE OAK, FL 32060  
 PHONE (386) 362-1001 OR (800) 226-1066 (FLORIDA ONLY)  
[WWW.MYSUWANNEERIVER.COM](http://WWW.MYSUWANNEERIVER.COM)

NORTHWEST FLORIDA WATER MANAGEMENT DISTRICT  
 152 WATER MANAGEMENT DR., HAVANA FL 32333-4712  
 (US HIGHWAY 90, 10 MILES WEST OF TALLAHASSEE)  
 PHONE: (850) 539-5999  
[WWW.NWFWMD.STATE.FL.US](http://WWW.NWFWMD.STATE.FL.US)

DRILL CUTTINGS LOG (Examine cuttings every 20 ft. or at formation changes. Note cavities and depth to producing zones.)											
From	<u>0</u>	ft	To	<u>17</u>	ft.	Color	<u>Brown</u>	Grain Size (F, M, C)	<u>NA</u>	Material	<u>Sand</u>
From	<u>17</u>	ft.	To	<u>20</u>	ft.	Color	<u>Tan</u>	Grain Size (F, M, C)	<u>NA</u>	Material	<u>Sand</u>
From	_____	ft.	To	_____	ft.	Color	_____	Grain Size (F, M, C)	_____	Material	_____
From	_____	ft.	To	_____	ft.	Color	_____	Grain Size (F, M, C)	_____	Material	_____
From	_____	ft.	To	_____	ft.	Color	_____	Grain Size (F, M, C)	_____	Material	_____
From	_____	ft.	To	_____	ft.	Color	_____	Grain Size (F, M, C)	_____	Material	_____
From	_____	ft.	To	_____	ft.	Color	_____	Grain Size (F, M, C)	_____	Material	_____
From	_____	ft.	To	_____	ft.	Color	_____	Grain Size (F, M, C)	_____	Material	_____
From	_____	ft.	To	_____	ft.	Color	_____	Grain Size (F, M, C)	_____	Material	_____
From	_____	ft.	To	_____	ft.	Color	_____	Grain Size (F, M, C)	_____	Material	_____
From	_____	ft.	To	_____	ft.	Color	_____	Grain Size (F, M, C)	_____	Material	_____
From	_____	ft.	To	_____	ft.	Color	_____	Grain Size (F, M, C)	_____	Material	_____
From	_____	ft.	To	_____	ft.	Color	_____	Grain Size (F, M, C)	_____	Material	_____

COMMENTS \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Detailed Site Map of Well Location

GP WO	1014032		
MW 5	28°32'56.8"	81°23'13.2"	

Give distances from all reference point or structures, septic systems, sanitary hazards, and contamination sources within 500 ft. of well

STATE OF FLORIDA WELL COMPLETION REPORT



- Southwest
- Northwest
- St. Johns River
- South Florida
- Suwannee River
- DEP
- Delegated Authority (if Applicable)

PLEASE FILL OUT ALL APPLICABLE FIELDS  
 (\* Denotes Required Fields Where Applicable)

Date Stamp

Orange County

Official Use Only

1 \*Permit Number 140665 CURMWP No. \_\_\_\_\_ DID Number \_\_\_\_\_ SR-524 Delineation No. \_\_\_\_\_

2 \* Number of permitted wells constructed, repaired, or abandoned 1 \* Number of permitted wells not constructed, repaired or abandoned 0

3 \* Owner's Name City of Orlando 4 \* Completion Date 10/13/2014 5 Florida Unique ID \_\_\_\_\_

6 630 W. Amelia Street - Orlando  
 \* Well Location - Address, Road Name or Number, City, ZIP

7 \* County Orange \* Section 26 Land Grant \_\_\_\_\_ \* Township 22 \* Range 29

8 Latitude \_\_\_\_\_ Longitude \_\_\_\_\_

9 Data Obtained From \_\_\_\_\_ GPS \_\_\_\_\_ Map \_\_\_\_\_ Survey \_\_\_\_\_ Datum NAD 2011 NAD 83 WGS 84

10 \* TYPE OF WORK:  Construction \_\_\_\_\_ Repair \_\_\_\_\_ Modification \_\_\_\_\_ Abandonment \_\_\_\_\_

11. Specify Intended Use(s) of Well(s):

<input type="checkbox"/> Domestic	<input type="checkbox"/> Landscape Irrigation	<input type="checkbox"/> Agricultural Irrigation	<input type="checkbox"/> See Investigation
<input type="checkbox"/> Bottled Water Supply	<input type="checkbox"/> Recreation Area Irrigation	<input type="checkbox"/> Livestock	<input checked="" type="checkbox"/> Moulting
<input type="checkbox"/> Public Water Supply (Limited Use/DOH)	<input type="checkbox"/> Nursery Irrigation	<input type="checkbox"/> Test	<input type="checkbox"/> Earth - Coupled Geothermal
<input type="checkbox"/> Public Water Supply (Community or Non-Community/DEP)	<input type="checkbox"/> Commercial / Industrial	<input type="checkbox"/> HVAC Supply	<input type="checkbox"/> HVAC Return
<input type="checkbox"/> Class Injection	<input type="checkbox"/> Golf Course Irrigation		

Class V Injection: \_\_\_\_\_ Recharge \_\_\_\_\_ Commercial/Industrial Dispose \_\_\_\_\_ Aquifer Storage & Recovery \_\_\_\_\_ Drainage \_\_\_\_\_  
 Remediation: \_\_\_\_\_ Recovery \_\_\_\_\_ Air Sparge \_\_\_\_\_ Other (Describe) \_\_\_\_\_

12 \* Drill Method  Auger \_\_\_\_\_ Cable Tool \_\_\_\_\_ Rotary \_\_\_\_\_ Combination (Two or More Methods) \_\_\_\_\_ Jetted \_\_\_\_\_ Sonic \_\_\_\_\_  
 \_\_\_\_\_ Horizontal Drilling \_\_\_\_\_ Hydraulic Point (Direct Push) \_\_\_\_\_ Other \_\_\_\_\_

13 \* Measured Static Water Level \_\_\_\_\_ ft Measured Pumping Water Level NA ft After NA hours NA GPM

14 \* Measuring Point (Describe) Land Surface Which is 0 ft \_\_\_\_\_ Above \_\_\_\_\_ Below Land Surface \* Flowing \_\_\_\_\_ Yes \_\_\_\_\_ No

15 \* Casing Material \_\_\_\_\_ Black Steel \_\_\_\_\_ Galvanized \_\_\_\_\_  PVC \_\_\_\_\_ Stainless Steel \_\_\_\_\_ Not Cased \_\_\_\_\_ Other \_\_\_\_\_

16 \* Total Well Depth 35 ft Cased Depth 25 ft Open Hole From NA to NA ft Screen From 25 to 35 ft Slot Size 0.005

\* ABANDONMENT OTHER (Explain)

From _____ ft To _____ ft	No of Bags _____	Seal Material (Check One) _____	Neat Cement _____	Bentonite _____	Other _____
From _____ ft To _____ ft	No of Bags _____	Seal Material (Check One) _____	Neat Cement _____	Bentonite _____	Other _____
From _____ ft To _____ ft	No of Bags _____	Seal Material (Check One) _____	Neat Cement _____	Bentonite _____	Other _____
From _____ ft To _____ ft	No of Bags _____	Seal Material (Check One) _____	Neat Cement _____	Bentonite _____	Other _____

\* SURFACE CASING DIAMETER & DEPTH

Diam _____ in From _____ ft To _____ ft	# of bags _____	Seal Material (Check One) _____	Neat Cement _____	Bentonite _____	Other _____
Diam _____ in From _____ ft To _____ ft	# of bags _____	Seal Material (Check One) _____	Neat Cement _____	Bentonite _____	Other _____

\* PRIMARY CASING DIAMETER & DEPTH

Diam <u>2</u> in From <u>0</u> ft To <u>21</u> ft	# of bags <u>2.5</u>	Seal Material (Check One) <input checked="" type="checkbox"/>	Neat Cement _____	Bentonite _____	Other _____
Diam _____ in From _____ ft To _____ ft	# of bags _____	Seal Material (Check One) _____	Neat Cement _____	Bentonite _____	Other _____
Diam _____ in From _____ ft To _____ ft	# of bags _____	Seal Material (Check One) _____	Neat Cement _____	Bentonite _____	Other _____

\* LINER CASING DIAMETER & DEPTH

Diam _____ in From _____ ft To _____ ft	# of bags _____	Seal Material (Check One) _____	Neat Cement _____	Bentonite _____	Other _____
Diam _____ in From _____ ft To _____ ft	# of bags _____	Seal Material (Check One) _____	Neat Cement _____	Bentonite _____	Other _____

\* TELESCOPE CASING DIAMETER & DEPTH

Diam _____ in From _____ ft To _____ ft	# of bags _____	Seal Material (Check One) _____	Neat Cement _____	Bentonite _____	Other _____
Diam _____ in From _____ ft To _____ ft	# of bags _____	Seal Material (Check One) _____	Neat Cement _____	Bentonite _____	Other _____

PUMP TYPE (if known) \_\_\_\_\_ Centrifugal \_\_\_\_\_ Jet \_\_\_\_\_ Submersible \_\_\_\_\_ Turbine \_\_\_\_\_ CHEMICAL ANALYSIS (When Required)  
 Horsepower \_\_\_\_\_ Pump Capacity (GPM) \_\_\_\_\_ Iron \_\_\_\_\_ ppm Sulfate \_\_\_\_\_ ppm Chloride \_\_\_\_\_ ppm  
 Pump depth \_\_\_\_\_ ft Intake Depth \_\_\_\_\_ ft Laboratory Test \_\_\_\_\_ Field Test Kit \_\_\_\_\_

\* Contractor Name James Hinsl \* License No. 9311 Email Address Jim@drlhinsl.com

\* Contractor's Signature James Hinsl \* Owner's Name Christian Dodd

I certify that the information in this report is accurate & true

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**DRILL CUTTINGS LOG** (Examine cuttings every 20 ft. or at formation changes. Note cavities and depth to producing zones.)

From <u>0</u> ft.	To <u>17</u> ft.	Color <u>Brown</u>	Grain Size (F, M, C)	<u>NA</u>	Material	<u>Sand</u>
From <u>17</u> ft.	To <u>35</u> ft.	Color <u>Tan</u>	Grain Size (F, M, C)	<u>NA</u>	Material	<u>Sand</u>
From ___ ft.	To ___ ft.	Color _____	Grain Size (F, M, C)	_____	Material	_____
From ___ ft.	To ___ ft.	Color _____	Grain Size (F, M, C)	_____	Material	_____
From ___ ft.	To ___ ft.	Color _____	Grain Size (F, M, C)	_____	Material	_____
From ___ ft.	To ___ ft.	Color _____	Grain Size (F, M, C)	_____	Material	_____
From ___ ft.	To ___ ft.	Color _____	Grain Size (F, M, C)	_____	Material	_____
From ___ ft.	To ___ ft.	Color _____	Grain Size (F, M, C)	_____	Material	_____
From ___ ft.	To ___ ft.	Color _____	Grain Size (F, M, C)	_____	Material	_____
From ___ ft.	To ___ ft.	Color _____	Grain Size (F, M, C)	_____	Material	_____
From ___ ft.	To ___ ft.	Color _____	Grain Size (F, M, C)	_____	Material	_____
From ___ ft.	To ___ ft.	Color _____	Grain Size (F, M, C)	_____	Material	_____
From ___ ft.	To ___ ft.	Color _____	Grain Size (F, M, C)	_____	Material	_____

COMMENTS \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Detailed Site Map of Well Location

GP WO	1014032		
MW 1	28°32'58.5"	81°23'10.2"	

Give distances from all reference point or structures, septic systems, sanitary hazards, and contamination sources within 500 ft. of well

STATE OF FLORIDA WELL COMPLETION REPORT



- Southwest
- Northwest
- St. Johns River
- South Florida
- Suwannee River
- DEP
- Delegated Authority (if Applicable)

PLEASE FILL OUT ALL APPLICABLE FIELDS  
(\* Denotes Required Fields Where Applicable)

Orange County

Date Stamp

DRILLER USE ONLY

1 \*Permit Number: 140665 CUPWUP No \_\_\_\_\_ CID Number \_\_\_\_\_ 62-524 Delineation No \_\_\_\_\_  
 2 \* Number of permitted wells constructed, repaired, or abandoned 3 \* Number of permitted wells not constructed, repaired, or abandoned 0  
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 \* Well Location - Address, Road Name or Number, City, ZIP

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8 Latitude \_\_\_\_\_ Longitude \_\_\_\_\_

9 Data Obtained From \_\_\_\_\_ GPS \_\_\_\_\_ Map \_\_\_\_\_ Survey \_\_\_\_\_ Datum NAD 27 NAD 83 WGS 84

10 \* TYPE OF WORK:  Construction  Repair  Modification  Abandonment

11. Specify Intended Use(s) of Well(s):  
 Domestic \_\_\_\_\_ Landscape Irrigation \_\_\_\_\_ Agricultural Irrigation \_\_\_\_\_ Site Investigation \_\_\_\_\_  
 Bottled Water Supply \_\_\_\_\_ Recreation Area Irrigation \_\_\_\_\_ Livestock \_\_\_\_\_  Monitoring \_\_\_\_\_  
 Public Water Supply (Limited Use/DOH) \_\_\_\_\_ Nursery Irrigation \_\_\_\_\_ Test \_\_\_\_\_  
 Public Water Supply (Community or Non Community/DEP) \_\_\_\_\_ Commercial / Industrial \_\_\_\_\_ Earth - Coupled Geothermics \_\_\_\_\_  
 Class I Injection \_\_\_\_\_ Golf Course Irrigation \_\_\_\_\_ HVAC Supply \_\_\_\_\_  
 \_\_\_\_\_ HVAC Return \_\_\_\_\_  
 Class V Injection \_\_\_\_\_ Recharge \_\_\_\_\_ Commercial/Industrial Disposal \_\_\_\_\_ Aquifer Storage & Recovery \_\_\_\_\_ Drainage \_\_\_\_\_  
 Remediation \_\_\_\_\_ Recovery \_\_\_\_\_ Air Sparge \_\_\_\_\_ Other (Describe) \_\_\_\_\_  
 Other (Describe) \_\_\_\_\_

12. \*Drill Method  Auger  Cable Tool  Rotary  Combination (Two or More Methods)  Jetted  Sonic  
 Horizontal Drilling  Hydraulic Point (Direct Push)  Other \_\_\_\_\_

13 \*Measured Static Water Level \_\_\_\_\_ ft. Measured Pumping Water Level NA ft. After NA hours a NA GPM

14 \*Measuring Point (Describe) Land Surface Which is 0 ft. \_\_\_\_\_ Above \_\_\_\_\_ Below Land Surface \*Flowing  Yes  No

15 \* Casing Material \_\_\_\_\_  Steel \_\_\_\_\_ Galvanized \_\_\_\_\_  PVC \_\_\_\_\_ Stainless Steel \_\_\_\_\_ Non-Cased \_\_\_\_\_ Other \_\_\_\_\_

16 \* Total Well Depth 25 ft. Cased Depth 15 ft. Open Hole From NA to NA ft. Screen From 15 to 25 ft. Slot Size 0.006

\* ABANDONMENT OTHER (Explain)  
 From \_\_\_\_\_ ft. To \_\_\_\_\_ ft. No. of Bags \_\_\_\_\_ Seal Material (Check One) \_\_\_\_\_ Neat Cement \_\_\_\_\_ Bentonite \_\_\_\_\_ Other \_\_\_\_\_  
 From \_\_\_\_\_ ft. To \_\_\_\_\_ ft. No. of Bags \_\_\_\_\_ Seal Material (Check One) \_\_\_\_\_ Neat Cement \_\_\_\_\_ Bentonite \_\_\_\_\_ Other \_\_\_\_\_  
 From \_\_\_\_\_ ft. To \_\_\_\_\_ ft. No. of Bags \_\_\_\_\_ Seal Material (Check One) \_\_\_\_\_ Neat Cement \_\_\_\_\_ Bentonite \_\_\_\_\_ Other \_\_\_\_\_  
 From \_\_\_\_\_ ft. To \_\_\_\_\_ ft. No. of Bags \_\_\_\_\_ Seal Material (Check One) \_\_\_\_\_ Neat Cement \_\_\_\_\_ Bentonite \_\_\_\_\_ Other \_\_\_\_\_  
 From \_\_\_\_\_ ft. To \_\_\_\_\_ ft. No. of Bags \_\_\_\_\_ Seal Material (Check One) \_\_\_\_\_ Neat Cement \_\_\_\_\_ Bentonite \_\_\_\_\_ Other \_\_\_\_\_

\* SURFACE CASING DIAMETER & DEPTH  
 Diam \_\_\_\_\_ in. From \_\_\_\_\_ ft. To \_\_\_\_\_ ft. # of bags \_\_\_\_\_ Seal Material (Check One) \_\_\_\_\_ Neat Cement \_\_\_\_\_ Bentonite \_\_\_\_\_ Other \_\_\_\_\_  
 Diam \_\_\_\_\_ in. From \_\_\_\_\_ ft. To \_\_\_\_\_ ft. # of bags \_\_\_\_\_ Seal Material (Check One) \_\_\_\_\_ Neat Cement \_\_\_\_\_ Bentonite \_\_\_\_\_ Other \_\_\_\_\_

\* PRIMARY CASING DIAMETER & DEPTH  
 Diam 2 in. From 0 ft. To 11 ft. # of bags 1.5 Seal Material (Check One)  Neat Cement \_\_\_\_\_ Bentonite \_\_\_\_\_ Other \_\_\_\_\_  
 Diam \_\_\_\_\_ in. From \_\_\_\_\_ ft. To \_\_\_\_\_ ft. # of bags \_\_\_\_\_ Seal Material (Check One) \_\_\_\_\_ Neat Cement \_\_\_\_\_ Bentonite \_\_\_\_\_ Other \_\_\_\_\_  
 Diam \_\_\_\_\_ in. From \_\_\_\_\_ ft. To \_\_\_\_\_ ft. # of bags \_\_\_\_\_ Seal Material (Check One) \_\_\_\_\_ Neat Cement \_\_\_\_\_ Bentonite \_\_\_\_\_ Other \_\_\_\_\_

\* LINER CASING DIAMETER & DEPTH  
 Diam \_\_\_\_\_ in. From \_\_\_\_\_ ft. To \_\_\_\_\_ ft. # of bags \_\_\_\_\_ Seal Material (Check One) \_\_\_\_\_ Neat Cement \_\_\_\_\_ Bentonite \_\_\_\_\_ Other \_\_\_\_\_  
 Diam \_\_\_\_\_ in. From \_\_\_\_\_ ft. To \_\_\_\_\_ ft. # of bags \_\_\_\_\_ Seal Material (Check One) \_\_\_\_\_ Neat Cement \_\_\_\_\_ Bentonite \_\_\_\_\_ Other \_\_\_\_\_

\* TELESCOPE CASING DIAMETER & DEPTHS  
 Diam \_\_\_\_\_ in. From \_\_\_\_\_ ft. To \_\_\_\_\_ ft. # of bags \_\_\_\_\_ Seal Material (Check One) \_\_\_\_\_ Neat Cement \_\_\_\_\_ Bentonite \_\_\_\_\_ Other \_\_\_\_\_  
 Diam \_\_\_\_\_ in. From \_\_\_\_\_ ft. To \_\_\_\_\_ ft. # of bags \_\_\_\_\_ Seal Material (Check One) \_\_\_\_\_ Neat Cement \_\_\_\_\_ Bentonite \_\_\_\_\_ Other \_\_\_\_\_

PUMP TYPE (If Known) \_\_\_\_\_ Centrifugal \_\_\_\_\_ Jet \_\_\_\_\_ Submersible \_\_\_\_\_ Turbine \_\_\_\_\_  
 Horsepower \_\_\_\_\_ Pump Capacity (GPM) \_\_\_\_\_ Iron \_\_\_\_\_ ppm Sulfate \_\_\_\_\_ ppm Chloride \_\_\_\_\_ ppm  
 Pump depth \_\_\_\_\_ ft. Intake Depth \_\_\_\_\_ ft. Laboratory Test \_\_\_\_\_ Field Test Kit \_\_\_\_\_

\* Contractor Name James Hinst \* License No 9311 Email Address jhinst@drillproll.com  
 \* Contractor's Signature James Hinst \* Driller's Name Christian Dodd

I certify that the information on this report is accurate & true.

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT  
 2379 BROAD STREET, BROOKSVILLE, FL 34604-6899  
 PHONE (352) 796-7211 OR (800) 423-1476  
[WWW.SWFWMDD.STATE.FL.US](http://WWW.SWFWMDD.STATE.FL.US)

SOUTH FLORIDA WATER MANAGEMENT DISTRICT  
 P O. BOX 24680  
 3301 GUN CLUB ROAD  
 WEST PALM BEACH, FL 33416-4680  
 PHONE: (561) 686-8800  
[WWW.SFWMD.GOV](http://WWW.SFWMD.GOV)

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT  
 4049 REID STREET, PALATKA, FL 32178-1427  
 PHONE: (386) 329-4500  
[WWW.SJRWMDCOM](http://WWW.SJRWMDCOM)

SUWANNEE RIVER WATER MANAGEMENT DISTRICT  
 9225 CR 49  
 LIVE OAK, FL 32060  
 PHONE (386) 362-1001 OR (800) 226-1068 (FLORIDA ONLY)  
[WWW.MYSUWANNEERIVER.COM](http://WWW.MYSUWANNEERIVER.COM)

NORTHWEST FLORIDA WATER MANAGEMENT DISTRICT  
 152 WATER MANAGEMENT DR., HAVANA FL 32333-4712  
 (US HIGHWAY 90, 10 MILES WEST OF TALLAHASSEE)  
 PHONE: (850) 539-5999  
[WWW.NWFWMD.STATE.FL.US](http://WWW.NWFWMD.STATE.FL.US)

**DRILL CUTTINGS LOG** (Examine cuttings every 20 ft. or at formation changes. Note cavities and depth to producing zones)

From <b>0</b> ft.	To <b>17</b> ft.	Color <b>Brown</b>	Grain Size (F, M, C)	<b>NA</b>	Material	<b>Sand</b>
From <b>17</b> ft.	To <b>25</b> ft.	Color <b>Tan</b>	Grain Size (F, M, C)	<b>NA</b>	Material	<b>Sand</b>
From ___ ft.	To ___ ft.	Color _____	Grain Size (F, M, C)	_____	Material	_____
From ___ ft.	To ___ ft.	Color _____	Grain Size (F, M, C)	_____	Material	_____
From ___ ft.	To ___ ft.	Color _____	Grain Size (F, M, C)	_____	Material	_____
From ___ ft.	To ___ ft.	Color _____	Grain Size (F, M, C)	_____	Material	_____
From ___ ft.	To ___ ft.	Color _____	Grain Size (F, M, C)	_____	Material	_____
From ___ ft.	To ___ ft.	Color _____	Grain Size (F, M, C)	_____	Material	_____
From ___ ft.	To ___ ft.	Color _____	Grain Size (F, M, C)	_____	Material	_____
From ___ ft.	To ___ ft.	Color _____	Grain Size (F, M, C)	_____	Material	_____
From ___ ft.	To ___ ft.	Color _____	Grain Size (F, M, C)	_____	Material	_____
From ___ ft.	To ___ ft.	Color _____	Grain Size (F, M, C)	_____	Material	_____
From ___ ft.	To ___ ft.	Color _____	Grain Size (F, M, C)	_____	Material	_____

COMMENTS \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Detailed Site Map of Well Location

GP WO	1014032	
MW 2	28°32'58.8"	81°23'11.9"
MW 3	28°32'55.6"	81°23'11.5"
MW 4	28°32'56.5"	81°23'12.2"



Give distances from all reference point or structures, septic systems, sanitary hazards, and contamination sources within 500 ft. of well.

DEP Form FD 9000-24: GROUNDWATER SAMPLING LOG

SITE NAME: Farmer Orlando Avenc SITE LOCATION: 630 West Amelia St. Orlando, FL  
 WELL NO: MW-6 SAMPLE ID: MW-6-101614 DATE: 10-16-14

PURGING DATA

WELL DIAMETER (inches): 2 TUBING DIAMETER (inches): 3/4 WELL SCREEN INTERVAL DEPTH: 10 feet to 20 feet STATIC DEPTH TO WATER (feet): 4.78 PURGE PUMP TYPE OR BAILER: PP  
 WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY  
 = ( 20 feet - 4.78 feet ) X 0.16 gallons/foot = 2.43 gallons  
 EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME  
 = \_\_\_\_\_ gallons + ( \_\_\_\_\_ gallons/foot X \_\_\_\_\_ feet ) + \_\_\_\_\_ gallons = \_\_\_\_\_ gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 11 FINAL PUMP OR TUBING DEPTH IN WELL (feet): 5 PURGING INITIATED AT: 1418 PURGING ENDED AT: 1442 TOTAL VOLUME PURGED (gallons): 3.45

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) μmhos/cm or μS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1436	2.25	2.25	0.10	4.87	6.90	28.1	130	0.81	12.20	Clear	None
1439	0.30	2.15	0.10	4.87	6.89	28.2	130	0.82	11.80	-	-
1442	0.30	3.45	0.10	4.87	6.89	28.2	130	0.82	11.54	-	-

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88  
 TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016  
 PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: ECT-Adam F./kelly E. SAMPLER(S) SIGNATURE(S): [Signature] SAMPLING INITIATED AT: 1443 SAMPLING ENDED AT: 1455  
 PUMP OR TUBING DEPTH IN WELL (feet): 5 TUBING MATERIAL CODE: LDPE FIELD-FILTERED: Y FILTER SIZE: \_\_\_\_\_ μm  
 FIELD DECONTAMINATION: PUMP Y TUBING Y (replaced) DUPLICATE: Y

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
<u>MW-6</u>	<u>3</u>	<u>CG</u>	<u>10ml</u>	<u>HCL</u>	<u>---</u>	<u>---</u>	<u>V8260B</u>	<u>RFP</u>	<u>100</u>
<u>101614</u>	<u>2</u>	<u>AG</u>	<u>250ml</u>	<u>none/ICE</u>	<u>---</u>	<u>---</u>	<u>P8081PESTPP</u>	<u>APP</u>	<u>↓</u>
<u>↓</u>	<u>2</u>	<u>AG</u>	<u>250ml</u>	<u>none/ICE</u>	<u>---</u>	<u>---</u>	<u>P8141STD</u>	<u>↓</u>	<u>↓</u>
<u>↓</u>	<u>2</u>	<u>AG</u>	<u>250ml</u>	<u>none/ICE</u>	<u>---</u>	<u>---</u>	<u>H8151FI</u>	<u>↓</u>	<u>↓</u>
<u>↓</u>	<u>1</u>	<u>PE</u>	<u>250ml</u>	<u>H2O3</u>	<u>---</u>	<u>---</u>	<u>AS</u>	<u>↓</u>	<u>↓</u>

REMARKS: Submerged Screen (pump by 11 feet) @ 11' b/s to lower  
 MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; HDPE = High Density Polyethylene; LDPE = Low Density Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.  
 2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)  
 pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

DEP Form FD 9000-24: GROUNDWATER SAMPLING LOG

SITE NAME: <u>Former Orlando Areen</u>	SITE LOCATION: <u>630 W. Amelia St. Orlando, FL</u>
WELL NO: <u>MW-3</u>	SAMPLE ID: <u>MW-3-101614</u> DATE: <u>10-16-14</u>

**PURGING DATA**

WELL DIAMETER (inches): <u>2</u>	TUBING DIAMETER (inches): <u>1/4</u>	WELL SCREEN INTERVAL DEPTH: <u>15</u> feet to <u>25</u> feet	STATIC DEPTH TO WATER (feet): <u>18.69</u>	PURGE PUMP TYPE OR BAILER: <u>PP</u>
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable) = ( <u>25</u> feet - <u>18.69</u> feet ) X <u>0.16</u> gallons/foot = <u>1.00</u> gallons				
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable) =                      gallons + (                      gallons/foot X                      feet ) +                      gallons =                      gallons				
INITIAL PUMP OR TUBING DEPTH IN WELL (feet): <u>19</u>	FINAL PUMP OR TUBING DEPTH IN WELL (feet): <u>19</u>	PURGING INITIATED AT: <u>1322</u>	PURGING ENDED AT: <u>1342</u>	TOTAL VOLUME PURGED (gallons): <u>2.10</u>

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) μmhos/cm or μS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
<u>1336</u>	<u>1.5</u>	<u>1.5</u>	<u>0.10</u>	<u>18.73</u>	<u>9.13</u>	<u>26.4</u>	<u>1518</u>	<u>0.17</u>	<u>17.0</u>	<u>cloudy</u>	<u>unknown</u>
<u>1339</u>	<u>0.30</u>	<u>1.80</u>	<u>0.10</u>	<u>18.73</u>	<u>9.12</u>	<u>26.3</u>	<u>1517</u>	<u>0.17</u>	<u>16.83</u>	<u>"</u>	<u>"</u>
<u>1342</u>	<u>0.30</u>	<u>2.10</u>	<u>0.10</u>	<u>18.73</u>	<u>9.12</u>	<u>26.3</u>	<u>1517</u>	<u>0.16</u>	<u>16.41</u>	<u>"</u>	<u>"</u>

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88  
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016  
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

**SAMPLING DATA**

SAMPLED BY (PRINT)/ AFFILIATION: <u>ECT-Adam E / Kelly E.</u>	SAMPLER(S) SIGNATURE(S):	SAMPLING INITIATED AT: <u>1343</u>	SAMPLING ENDED AT: <u>1354</u>
PUMP OR TUBING DEPTH IN WELL (feet): <u>19</u>	TUBING MATERIAL CODE: <u>LDPE</u>	FIELD-FILTERED: Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	FILTER SIZE: _____ μm
FIELD DECONTAMINATION: PUMP Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	TUBING Y <input checked="" type="checkbox"/> N (replaced) <input type="checkbox"/>	DUPLICATE: Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
<u>MW-3</u>	<u>3</u>	<u>CG</u>	<u>400ml</u>	<u>HCL</u>	<u>---</u>	<u>---</u>	<u>V8260B</u>	<u>RFPP</u>	<u>2100</u>
<u>101614</u>	<u>2</u>	<u>AG</u>	<u>250ml</u>	<u>none/ICE</u>	<u>---</u>	<u>---</u>	<u>P8081PEST/PP</u>	<u>APP</u>	<u>↓</u>
<u>↓</u>	<u>2</u>	<u>AG</u>	<u>250ml</u>	<u>none/ICE</u>	<u>---</u>	<u>---</u>	<u>P8141SD</u>	<u>↓</u>	<u>↓</u>
<u>↓</u>	<u>2</u>	<u>AG</u>	<u>250ml</u>	<u>none/ICE</u>	<u>---</u>	<u>---</u>	<u>H8151FI</u>	<u>↓</u>	<u>↓</u>
<u>↓</u>	<u>1</u>	<u>PE</u>	<u>250ml</u>	<u>H2O2</u>	<u>---</u>	<u>---</u>	<u>AS</u>	<u>↓</u>	<u>↓</u>

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; HDPE = High Density Polyethylene; LDPE = Low Density Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.  
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)  
pH: ± 0.2 units    Temperature: ± 0.2 °C    Specific Conductance: ± 5%    Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater)    Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

DEP Form FD 9000-24: GROUNDWATER SAMPLING LOG

SITE NAME: <u>Former Orlando Arena</u>	SITE LOCATION: <u>636 W. Amelia St Orlando, FL</u>
WELL NO: <u>MW-4</u>	SAMPLE ID: <u>MW-4-101614</u>
DATE: <u>10-16-14</u>	

**PURGING DATA**

WELL DIAMETER (inches): <u>2</u>	TUBING DIAMETER (inches): <u>3/8</u>	WELL SCREEN INTERVAL DEPTH: <u>15</u> feet to <u>25</u> feet	STATIC DEPTH TO WATER (feet): <u>17.95</u>	PURGE PUMP TYPE OR BAILER: <u>PP</u>
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable)				
= ( <u>25</u> feet - <u>17.95</u> feet ) X <u>0.16</u> gallons/foot = <u>1.12</u> gallons				
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable)				
= gallons + ( gallons/foot X feet ) + gallons = gallons				
INITIAL PUMP OR TUBING DEPTH IN WELL (feet): <u>18.5</u>	FINAL PUMP OR TUBING DEPTH IN WELL (feet): <u>18.5</u>	PURGING INITIATED AT: <u>1220</u>	PURGING ENDED AT: <u>1307</u>	TOTAL VOLUME PURGED (gallons): <u>12.35</u>

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) μmhos/cm or μS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1301	11.75	11.75	0.10	18.41	6.13	25.9	660	0.33	73.3	Cloudy	unknown
1304	0.30	12.05	0.10	18.41	6.12	26.0	663	0.33	72.1	--	--
1307	0.30	12.35	0.10	18.41	6.12	26.0	660	0.33	71.8	--	--

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88  
 TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016  
 PURGING EQUIPMENT CODES: B = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

**SAMPLING DATA**

SAMPLED BY (PRINT) / AFFILIATION: <u>Ect - Adam E. / Kelly E.</u>	SAMPLER(S) SIGNATURE(S):	SAMPLING INITIATED AT: <u>1308</u>	SAMPLING ENDED AT: <u>1315</u>
PUMP OR TUBING DEPTH IN WELL (feet): <u>18.5</u>	TUBING MATERIAL CODE: <u>LDPE</u>	FIELD-FILTERED: Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	FILTER SIZE: <u>  </u> μm
FIELD DECONTAMINATION: PUMP Y <input checked="" type="checkbox"/> TUBING Y <input checked="" type="checkbox"/> (replaced)	DUPLICATE: Y <input type="checkbox"/> N <input checked="" type="checkbox"/>		

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
<u>MW-4</u>	<u>3</u>	<u>CG</u>	<u>1/2 gal</u>	<u>HCC</u>	<u>  </u>	<u>  </u>	<u>V8260B</u>	<u>RFP</u>	<u>≥ 100</u>
<u>101614</u>	<u>2</u>	<u>AG</u>	<u>250ml</u>	<u>none/PE</u>	<u>  </u>	<u>  </u>	<u>P8081PESTPA</u>	<u>APP</u>	<u>  </u>
<u>  </u>	<u>2</u>	<u>AG</u>	<u>250ml</u>	<u>none/PE</u>	<u>  </u>	<u>  </u>	<u>P8141SD</u>	<u>  </u>	<u>  </u>
<u>  </u>	<u>2</u>	<u>AG</u>	<u>250ml</u>	<u>none/PE</u>	<u>  </u>	<u>  </u>	<u>H8151E1</u>	<u>  </u>	<u>  </u>
<u>  </u>	<u>1</u>	<u>PE</u>	<u>250ml</u>	<u>H2003</u>	<u>  </u>	<u>  </u>	<u>AS</u>	<u>  </u>	<u>  </u>

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; HDPE = High Density Polyethylene; LDPE = Low Density Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After (Through) Peristaltic Pump; B = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; RFP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.  
 2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)  
 pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

DEP Form FD 9000-24: GROUNDWATER SAMPLING LOG

SITE NAME: <u>Former Orlando Asenc</u>	SITE LOCATION: <u>630 W. Amelia St. Orlando, FL</u>
WELL NO: <u>MW-1</u>	SAMPLE ID: <u>MW-1-101614</u>
DATE: <u>10-16-14</u>	

**PURGING DATA**

WELL DIAMETER (inches): <u>2</u>	TUBING DIAMETER (inches): <u>3/8</u>	WELL SCREEN INTERVAL DEPTH: <u>25 feet to 35 feet</u>	STATIC DEPTH TO WATER (feet): <u>17.02</u>	PURGE PUMP TYPE OR BAILER: <u>PP</u>
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable) = ( <u>35</u> feet - <u>17.02</u> feet ) X <u>0.16</u> gallons/foot = <u>2.87</u> gallons				
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable) = <u>0</u> gallons + ( <u>0.006</u> gallons/foot X <u>50</u> feet ) + <u>0.08</u> gallons = <u>0.38</u> gallons				
INITIAL PUMP OR TUBING DEPTH IN WELL (feet): <u>26</u>	FINAL PUMP OR TUBING DEPTH IN WELL (feet): <u>26.17.5</u>	PURGING INITIATED AT: <u>1136</u>	PURGING ENDED AT: <u>1201</u>	TOTAL VOLUME PURGED (gallons): <u>5.38</u>

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) μmhos/cm or μS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
<del>1155</del>	<del>3.0</del>	<del>3.0</del>	<del>0.23</del>	<del>17.22</del>	<del>6.52</del>	<del>25.7</del>	<del>940</del>	<del>0.15</del>			
1155	4.0	4.0	0.23	17.22	6.52	25.1	1120	0.14	14.30	Clear	none
1158	0.69	4.69	0.23	17.22	6.52	25.1	1121	0.14	14.19		
1201	0.69	5.38	0.23	17.22	6.52	25.1	1120	0.13	13.98		

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88  
 TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016  
 PURGING EQUIPMENT CODES: B = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

**SAMPLING DATA**

SAMPLED BY (PRINT) / AFFILIATION: <u>FCT-Adam E. / Kelly E.</u>			SAMPLER(S) SIGNATURE(S): <u>[Signature]</u>			SAMPLING INITIATED AT: <u>1202</u>		SAMPLING ENDED AT: <u>1212</u>	
PUMP OR TUBING DEPTH IN WELL (feet): <u>26.17.5</u>			TUBING MATERIAL CODE: <u>LDPE</u>			FIELD-FILTERED: Y <input checked="" type="checkbox"/> N <input type="checkbox"/>		FILTER SIZE: _____ μm	
FIELD DECONTAMINATION: PUMP Y <input checked="" type="checkbox"/> N <input type="checkbox"/>			TUBING Y <input checked="" type="checkbox"/> N (replaced) <input type="checkbox"/>			DUPLICATE: Y <input type="checkbox"/> N <input checked="" type="checkbox"/>			

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
<u>MW-2</u>	<u>3</u>	<u>CG</u>	<u>40ml</u>	<u>HCL</u>	<u>/</u>	<u>/</u>	<u>V8260B</u>	<u>RFPP</u>	<u>2100</u>
<u>101614</u>	<u>2</u>	<u>AG</u>	<u>250ml</u>	<u>none/PE</u>	<u>/</u>	<u>/</u>	<u>P8081PESTPL</u>	<u>APP</u>	<u>↓</u>
<u>↓</u>	<u>2</u>	<u>AG</u>	<u>250ml</u>	<u>none/ICE</u>	<u>/</u>	<u>/</u>	<u>P8145TD</u>	<u>↓</u>	<u>↓</u>
<u>↓</u>	<u>2</u>	<u>AG</u>	<u>250ml</u>	<u>none/PE</u>	<u>/</u>	<u>/</u>	<u>H8151FI</u>	<u>↓</u>	<u>↓</u>
	<u>1</u>	<u>PE</u>	<u>250ml</u>	<u>H2O2</u>	<u>/</u>	<u>/</u>	<u>AS</u>	<u>↓</u>	<u>↓</u>

REMARKS: Submerged screen (Pump full Rod) @ 26' bks to lower

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; HDPE = High Density Polyethylene; LDPE = Low Density Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After (Through) Peristaltic Pump; B = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.  
 2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)  
 pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)





GROUNDWATER



PROTECTION

A Division of DRILLPRO, LLC  
Environmental & Geotechnical Drilling

DAILY PROJECT SUMMARY

DAILY PROJECT SUMMARY

CLIENT NAME: ECY

DRILLER: Christian

RIG: 782213

PROJECT NAME: City of Colorado

WORK ORDER #: 1014032

DATE: 10-13-14

OVERNIGHT:  Yes  No

CREW MEMBERS: Christian Dodd  
Tim Flanagan  
Tyler Milliner 2:00pm  
T. Milliner 5:00pm

HOURS WORKED:

Time On Site: 8:00  
Lunch: 1/2  
Time Off Site: 7:45

MATERIALS USED / PURCHASED:

Sand	<u>36 30/45</u>	Riser	<u>100'-2"</u>
Fine Sand	<u>6</u>	Screen	<u>6-10x2" 006</u>
Bentonite	<u>2</u>	Pre-Packed	
Portland	<u>7</u>	Manholes	<u>9-8" Fl.</u>
Concrete	<u>10</u>	Sample Tubing	<u>290'</u>
Locks		Exp. Points	
Cones		LEP	<u>5-2"</u>
Other		Other	

EQUIPMENT RENTAL:

Rental Company: \_\_\_\_\_  
Equipment Rental: \_\_\_\_\_  
Rental Company: \_\_\_\_\_  
Equipment Rental: \_\_\_\_\_  
Reason: \_\_\_\_\_  
# of Days: \_\_\_\_\_  
Cost: \_\_\_\_\_  
Other: \_\_\_\_\_

DRUMS:

# Drums Supplied: Spread X  
Soil: X  
Water: X  
Time Spent Relocating Drums On Site: \_\_\_\_\_

MISCELLANEOUS:

Pavement Cutting (hrs.): \_\_\_\_\_  
Concrete Coring: \_\_\_\_\_  
Decontamination Structure: \_\_\_\_\_

STANDBY TIME:

Hour / Date / Time: \_\_\_\_\_  
Reason: 2 hrs wait on client for well depths and to go get more materials from Slog.

DESCRIPTION OF SIGNIFICANT PROBLEMS / ADDITIONAL COMMENTS
<u>Head Portholes, and lots of</u>
<u>Debris. Why Drilling.</u>

Well #	Latitude	Longitude
<u>MW-1</u>	<u>28° 32' 59.5"</u>	<u>81° 23' 10.2"</u>
<u>MW-2</u>	<u>28° 32' 58.8"</u>	<u>81° 23' 11.9"</u>
<u>MW-3</u>	<u>28° 32' 59.6"</u>	<u>81° 23' 11.5"</u>
<u>MW-4</u>	<u>28° 32' 56.5"</u>	<u>81° 23' 11.2"</u>
<u>MW-5</u>	<u>28° 32' 56.8"</u>	<u>81° 23' 13.2"</u>

To the best of my knowledge, the quantities indicated are correct, and I know of no injuries, loss of, or damage to equipment or near miss incidents that occurred during this project.

Signature of Client Field Representative

Printed Name of Client Field Representative Adam En-

Date Signed 10-13-14

DAILY PROJECT SUMMARY



DAILY PROJECT SUMMARY

CLIENT NAME: ECT DRILLER: Chris Jones RIG: 732215  
 PROJECT NAME: City of Colorado WORK ORDER #: 1014032 DATE: 10-13-14

6:00 A.M.	
6:30 A.M.	
7:00 A.M.	
7:30 A.M.	
8:00 A.M.	On site start work
8:30 A.M.	Excavate around water line and water line
9:00 A.M.	Excavate
9:30 A.M.	
10:00 A.M.	10:15 start work to 20' depth to find the water. Wait
10:30 A.M.	until about 11:00 start to 1st
11:00 A.M.	Start changed well depth pull well photo get!
11:30 A.M.	Report hole and well to 35'
12:00 P.M.	
12:30 P.M.	12:45 well not completed August 1st
1:00 P.M.	Start pumping to the hole and put down well
1:30 P.M.	excavate around well
2:00 P.M.	On site start setting well
2:30 P.M.	
3:00 P.M.	
3:30 P.M.	
4:00 P.M.	
4:30 P.M.	
5:00 P.M.	
5:30 P.M.	
6:00 P.M.	
6:30 P.M.	
7:00 P.M.	Finished and all wells. Wells decreased and shown to pad
7:30 P.M.	and discharge into one last well. Load up trucks
8:00 P.M.	and rig at 5:48
8:30 P.M.	

To the best of my knowledge, the quantities indicated are correct, and I know of no injuries, loss of, or damage to equipment or near miss incidents that occurred during this project.

[Signature]  
Signature of Client Field Representative

Adrian Ford  
Printed Name of Client Field Representative

10-13-14  
Date Signed

GROUNDWATER



PROTECTION

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Environmental & Geotechnical Drilling

DAILY PROJECT SUMMARY

DAILY PROJECT SUMMARY

CLIENT NAME: ECT

DRILLER: Maister

RIG: 782213

PROJECT NAME: City of Orlando

WORK ORDER #: 1014032 DATE: 10-13-14

WELL/BORING #	MW-1	MW-1	MW-2	MW-3	MW-4	MW-5		
<b>DIRECT PUSH</b>								
Soil Sampling	Pulled							
# of Samples	Not							
Total Depth								
H <sub>2</sub> O Samples SP15/Profiling	Deep							
# of Samples								
Total Depth	Enough							
<b>DRILLING</b>								
<b>STP Footage / Sonic Sampling</b>								
0-50' Below Land Surface								
50'-100' Below Land Surface								
100'+ Below Land Surface								
Total Spoons / Samples								
<b>WELL / BOREHOLE ABANDONMENT</b>								
Diameter	2"	<del>2"</del>						
Depth	20'	<del>20'</del>						
Pad Removal	N/A							
<b>WELL INFORMATION:</b>								
Size	2"	2"	2"	2"	2"	2"		
Depth	20'	35'	29'	25'	25'	20'		
Screen Length	10'	10'	10'	10'	10'	10'		
<b>SURFACE CASING / DUAL</b>								
Size								
Depth								
Type: _____								
<b>CAPS:</b>								
LEP		2"	2"	2"	2"	2"		
Slip Cap								
<b>COVER:</b>								
Flush Cover		8"	8"	8"	8"	8"		
Above Grade Protector								
Bumper Post								
Bolt Down Cover								
<b>WELL DEVELOPMENT TIME:</b>								
Pumping		30min	30min	30min	30min	30min		
<b>STEAM CLEANING # HOURS:</b>		30min	20min	20min	20min	20min		
<b>CLEAN-UP # HOURS:</b>		30min	30min	30min	30min	30min		

To the best of my knowledge, the quantities indicated are correct, and I know of no injuries, loss of, or damage to equipment or near miss incidents that occurred during this project.

[Signature]  
Signature of Client Field Representative

Adam Farl  
Printed Name of Client Field Representative

10-13-14  
Date Signed







## **APPENDIX E**

**Technical Report for**

**ECT**

**Former Orlando Arena; 630 Amelia St, Orlando, FL**

**Accutest Job Number: FA19167**

**Sampling Date: 10/16/14**

**Report to:**

**ECT  
3660 Maguire Blvd Suite 107  
Orlando, FL 32803  
jpeters@ectinc.com**

**ATTN: Jeff Peters**

**Total number of pages in report: 38**



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.



**Norm Farmer  
Technical Director**

**Client Service contact: Andrea Colby 407-425-6700**

Certifications: FL (E83510), LA (03051), KS (E-10327), IA (366), IL (200063), NC (573), NJ (FL002), SC (96038001)  
DoD ELAP (L-A-B L2229), CA (04226CA), TX (T104704404), PA (68-03573), VA (460177),  
AK, AR, GA, KY, MA, NV, OK, UT, WA

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Test results relate only to samples analyzed.

# Table of Contents

Sections:

1

2

3

4

-1-

<b>Section 1: Sample Summary</b> .....	<b>3</b>
<b>Section 2: Summary of Hits</b> .....	<b>4</b>
<b>Section 3: Sample Results</b> .....	<b>5</b>
<b>3.1:</b> FA19167-1: MW-2 10/16/14 .....	6
<b>3.2:</b> FA19167-2: MW-1 10/16/14 .....	12
<b>3.3:</b> FA19167-3: MW-4 10/16/14 .....	18
<b>3.4:</b> FA19167-4: MW-3 10/16/14 .....	24
<b>3.5:</b> FA19167-5: MW-5 10/16/14 .....	30
<b>Section 4: Misc. Forms</b> .....	<b>36</b>
<b>4.1:</b> Chain of Custody .....	37



### Sample Summary

ECT

Job No: FA19167

Former Orlando Arena; 630 Amelia St, Orlando, FL

Sample Number	Collected		Received	Matrix		Client Sample ID
	Date	Time By		Code	Type	
FA19167-1	10/16/14	11:07 AEKE	10/16/14	AQ	Ground Water	MW-2 10/16/14
FA19167-2	10/16/14	12:02 AEKE	10/16/14	AQ	Ground Water	MW-1 10/16/14
FA19167-3	10/16/14	13:08 AEKE	10/16/14	AQ	Ground Water	MW-4 10/16/14
FA19167-4	10/16/14	13:43 AEKE	10/16/14	AQ	Ground Water	MW-3 10/16/14
FA19167-5	10/16/14	14:43 AEKE	10/16/14	AQ	Ground Water	MW-5 10/16/14

## Summary of Hits

**Job Number:** FA19167  
**Account:** ECT  
**Project:** Former Orlando Arena; 630 Amelia St, Orlando, FL  
**Collected:** 10/16/14

Lab Sample ID	Client Sample ID	Result/ Qual	PQL	MDL	Units	Method
---------------	------------------	-----------------	-----	-----	-------	--------

**FA19167-1 MW-2 10/16/14**

No hits reported in this sample.

**FA19167-2 MW-1 10/16/14**

beta-BHC <sup>a</sup>	0.054	0.038	0.010	ug/l	SW846 8081B
4,4'-DDE <sup>a</sup>	0.018 I	0.077	0.014	ug/l	SW846 8081B
Endrin <sup>a</sup>	0.032 I	0.077	0.0067	ug/l	SW846 8081B
Heptachlor epoxide <sup>a</sup>	0.049	0.038	0.0069	ug/l	SW846 8081B

**FA19167-3 MW-4 10/16/14**

Benzene	0.36 I	1.0	0.24	ug/l	SW846 8260B
Toluene	0.87 I	1.0	0.20	ug/l	SW846 8260B
Ethylbenzene	1.6	1.0	0.28	ug/l	SW846 8260B
Xylene (total)	11.0	3.0	0.66	ug/l	SW846 8260B
Pentachlorophenol <sup>b</sup>	0.047 I	0.19	0.044	ug/l	SW846 8151A
Arsenic	11.4	10	2.4	ug/l	SW846 6010C

**FA19167-4 MW-3 10/16/14**

Toluene	0.27 I	1.0	0.20	ug/l	SW846 8260B
Ethylbenzene	0.71 I	1.0	0.28	ug/l	SW846 8260B
Xylene (total)	5.1	3.0	0.66	ug/l	SW846 8260B
Pentachlorophenol <sup>b</sup>	0.054 I	0.19	0.044	ug/l	SW846 8151A
Arsenic	5.5 I	10	2.4	ug/l	SW846 6010C

**FA19167-5 MW-5 10/16/14**

No hits reported in this sample.

(a) All hits confirmed by dual column analysis.

(b) All hits confirmed by dual column analysis. Primary and confirmation results differ by more than 40%. Lower value reported due to possible coelution.

Sample Results

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Report of Analysis

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## Report of Analysis

<b>Client Sample ID:</b> MW-2 10/16/14	<b>Date Sampled:</b> 10/16/14
<b>Lab Sample ID:</b> FA19167-1	<b>Date Received:</b> 10/16/14
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8260B	
<b>Project:</b> Former Orlando Arena; 630 Amelia St, Orlando, FL	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Z29259.D	1	10/20/14	CP	n/a	n/a	VZ1133
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

## Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	PQL	MDL	Units	Q
71-43-2	Benzene	0.24 U	1.0	0.24	ug/l	
108-88-3	Toluene	0.20 U	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	0.28 U	1.0	0.28	ug/l	
1330-20-7	Xylene (total)	0.66 U	3.0	0.66	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.20 U	1.0	0.20	ug/l	
91-20-3	Naphthalene	1.0 U	5.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	96%		83-118%
17060-07-0	1,2-Dichloroethane-D4	108%		79-125%
2037-26-5	Toluene-D8	97%		85-112%
460-00-4	4-Bromofluorobenzene	97%		83-118%

U = Not detected      MDL = Method Detection Limit  
PQL = Practical Quantitation Limit  
L = Indicates value exceeds calibration range

I = Result > = MDL but < PQL    J = Estimated value  
V = Indicates analyte found in associated method blank  
N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> MW-2 10/16/14	
<b>Lab Sample ID:</b> FA19167-1	<b>Date Sampled:</b> 10/16/14
<b>Matrix:</b> AQ - Ground Water	<b>Date Received:</b> 10/16/14
<b>Method:</b> SW846 8151A SW846 8151A	<b>Percent Solids:</b> n/a
<b>Project:</b> Former Orlando Arena; 630 Amelia St, Orlando, FL	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	CC045914.D	1	10/24/14	NJ	10/23/14	OP53633	GCC745
Run #2							

	Initial Volume	Final Volume
Run #1	260 ml	5.0 ml
Run #2		

## Herbicide List

CAS No.	Compound	Result	PQL	MDL	Units	Q
94-75-7	2,4-D	0.35 U	1.9	0.35	ug/l	
93-72-1	2,4,5-TP (Silvex)	0.058 U	0.19	0.058	ug/l	
93-76-5	2,4,5-T	0.056 U	0.19	0.056	ug/l	
1918-00-9	Dicamba	0.053 U	0.19	0.053	ug/l	
88-85-7	Dinoseb	0.96 U	3.8	0.96	ug/l	
75-99-0	Dalapon	1.9 U	4.8	1.9	ug/l	
120-36-5	Dichloroprop	0.40 U	1.9	0.40	ug/l	
94-82-6	2,4-DB	0.63 U	1.9	0.63	ug/l	
93-65-2	MCPPP	25 U	190	25	ug/l	
94-74-6	MCPA	40 U	190	40	ug/l	
87-86-5	Pentachlorophenol	0.044 U	0.19	0.044	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
19719-28-9	2,4-DCAA	76%		33-145%

U = Not detected      MDL = Method Detection Limit  
PQL = Practical Quantitation Limit  
L = Indicates value exceeds calibration range

I = Result > = MDL but < PQL    J = Estimated value  
V = Indicates analyte found in associated method blank  
N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> MW-2 10/16/14	
<b>Lab Sample ID:</b> FA19167-1	<b>Date Sampled:</b> 10/16/14
<b>Matrix:</b> AQ - Ground Water	<b>Date Received:</b> 10/16/14
<b>Method:</b> SW846 8081B SW846 3510C	<b>Percent Solids:</b> n/a
<b>Project:</b> Former Orlando Arena; 630 Amelia St, Orlando, FL	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	KK67083.D	1	10/23/14	GB	10/21/14	OP53597	GKK2210
Run #2							

	Initial Volume	Final Volume
Run #1	260 ml	5.0 ml
Run #2		

**Pesticide PPL List**

CAS No.	Compound	Result	PQL	MDL	Units	Q
309-00-2	Aldrin	0.0062 U	0.038	0.0062	ug/l	
319-84-6	alpha-BHC	0.0038 U	0.038	0.0038	ug/l	
319-85-7	beta-BHC	0.010 U	0.038	0.010	ug/l	
319-86-8	delta-BHC	0.0076 U	0.038	0.0076	ug/l	
58-89-9	gamma-BHC (Lindane)	0.0040 U	0.038	0.0040	ug/l	
12789-03-6	Chlordane	0.16 U	0.38	0.16	ug/l	
60-57-1	Dieldrin	0.0064 U	0.038	0.0064	ug/l	
72-54-8	4,4' -DDD	0.0096 U	0.077	0.0096	ug/l	
72-55-9	4,4' -DDE	0.014 U	0.077	0.014	ug/l	
50-29-3	4,4' -DDT	0.0096 U	0.077	0.0096	ug/l	
72-20-8	Endrin	0.0067 U	0.077	0.0067	ug/l	
1031-07-8	Endosulfan sulfate	0.0064 U	0.077	0.0064	ug/l	
7421-93-4	Endrin aldehyde	0.0063 U	0.077	0.0063	ug/l	
959-98-8	Endosulfan-I	0.0063 U	0.038	0.0063	ug/l	
33213-65-9	Endosulfan-II	0.0077 U	0.038	0.0077	ug/l	
76-44-8	Heptachlor	0.0060 U	0.038	0.0060	ug/l	
1024-57-3	Heptachlor epoxide	0.0069 U	0.038	0.0069	ug/l	
72-43-5	Methoxychlor	0.0096 U	0.077	0.0096	ug/l	
8001-35-2	Toxaphene	1.1 U	1.9	1.1	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	61%		42-127%
2051-24-3	Decachlorobiphenyl	70%		27-127%

U = Not detected      MDL = Method Detection Limit      I = Result > = MDL but < PQL      J = Estimated value  
 PQL = Practical Quantitation Limit      V = Indicates analyte found in associated method blank  
 L = Indicates value exceeds calibration range      N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b>	MW-2 10/16/14	<b>Date Sampled:</b>	10/16/14
<b>Lab Sample ID:</b>	FA19167-1	<b>Date Received:</b>	10/16/14
<b>Matrix:</b>	AQ - Ground Water	<b>Percent Solids:</b>	n/a
<b>Method:</b>	SW846 8141B SW846 3510C		
<b>Project:</b>	Former Orlando Arena; 630 Amelia St, Orlando, FL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	ZZ25661.D	1	10/22/14	MRE	10/21/14	OP53593	GZZ952
Run #2							

	Initial Volume	Final Volume
Run #1	260 ml	2.0 ml
Run #2		

## Organophosphorus Pesticides

CAS No.	Compound	Result	PQL	MDL	Units	Q
35400-43-2	Bolstar	0.57 U	1.5	0.57	ug/l	
2921-88-2	Chlorpyrifos	0.51 U	1.5	0.51	ug/l	
56-72-4	Coumaphos	0.60 U	1.5	0.60	ug/l	
8065-48-3	Demeton	0.90 U	3.1	0.90	ug/l	
333-41-5	Diazinon	0.43 U	1.5	0.43	ug/l	
62-73-7	Dichlorvos	0.50 U	1.5	0.50	ug/l	
60-51-5	Dimethoate	0.42 U	1.5	0.42	ug/l	
298-04-4	Disulfoton	0.45 U	1.5	0.45	ug/l	
2104-64-5	EPN	0.49 U	1.5	0.49	ug/l	
13194-48-4	Ethoprop	0.35 U	1.5	0.35	ug/l	
56-38-2	Ethyl Parathion	0.45 U	1.5	0.45	ug/l	
115-90-2	Fensulfothion	1.1 U	1.5	1.1	ug/l	
55-38-9	Fenthion	0.47 U	1.5	0.47	ug/l	
121-75-5	Malathion	0.36 U	1.5	0.36	ug/l	
86-50-0	Methyl Azinphos (Guthion)	0.45 U	1.5	0.45	ug/l	
298-00-0	Methyl Parathion	0.40 U	1.5	0.40	ug/l	
150-50-5	Merphos	1.2 U	3.8	1.2	ug/l	
7786-34-7	Mevinphos	0.46 U	1.5	0.46	ug/l	
6923-22-4	Monocrotophos <sup>a</sup>	0.77 U	3.8	0.77	ug/l	
300-76-5	Naled <sup>b</sup>	0.54 U	1.5	0.54	ug/l	
298-02-2	Phorate	0.34 U	1.5	0.34	ug/l	
299-84-3	Ronnel	0.45 U	1.5	0.45	ug/l	
3689-24-5	Sulfotep	0.44 U	1.5	0.44	ug/l	
22248-79-9	Stirophos	0.47 U	1.5	0.47	ug/l	
107-49-3	TEPP <sup>a</sup>	1.5 U	3.8	1.5	ug/l	
34643-46-4	Tokuthion	0.67 U	1.5	0.67	ug/l	
327-98-0	Trichloronate	0.70 U	1.5	0.70	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
126-73-8	Tributyl phosphate	125%		47-140%

U = Not detected      MDL = Method Detection Limit  
PQL = Practical Quantitation Limit  
L = Indicates value exceeds calibration range

I = Result > = MDL but < PQL    J = Estimated value  
V = Indicates analyte found in associated method blank  
N = Indicates presumptive evidence of a compound

### Report of Analysis

<b>Client Sample ID:</b> MW-2 10/16/14	
<b>Lab Sample ID:</b> FA19167-1	<b>Date Sampled:</b> 10/16/14
<b>Matrix:</b> AQ - Ground Water	<b>Date Received:</b> 10/16/14
<b>Method:</b> SW846 8141B SW846 3510C	<b>Percent Solids:</b> n/a
<b>Project:</b> Former Orlando Arena; 630 Amelia St, Orlando, FL	

#### Organophosphorus Pesticides

CAS No.	Compound	Result	PQL	MDL	Units	Q
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- (a) Associated BS recovery outside control limits.
- (b) Associated CCV and BS outside control limits.

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U = Not detected      MDL = Method Detection Limit      I = Result > = MDL but < PQL      J = Estimated value  
PQL = Practical Quantitation Limit      V = Indicates analyte found in associated method blank  
L = Indicates value exceeds calibration range      N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> MW-2 10/16/14	<b>Date Sampled:</b> 10/16/14
<b>Lab Sample ID:</b> FA19167-1	<b>Date Received:</b> 10/16/14
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Project:</b> Former Orlando Arena; 630 Amelia St, Orlando, FL	

### Total Metals Analysis

Analyte	Result	PQL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	2.4 U	10	2.4	ug/l	1	10/20/14	10/20/14 LM	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>

(1) Instrument QC Batch: MA11975

(2) Prep QC Batch: MP28082

PQL = Practical Quantitation Limit  
MDL = Method Detection Limit

U = Indicates a result < MDL  
I = Indicates a result > = MDL but < PQL

## Report of Analysis

<b>Client Sample ID:</b> MW-1 10/16/14	
<b>Lab Sample ID:</b> FA19167-2	<b>Date Sampled:</b> 10/16/14
<b>Matrix:</b> AQ - Ground Water	<b>Date Received:</b> 10/16/14
<b>Method:</b> SW846 8260B	<b>Percent Solids:</b> n/a
<b>Project:</b> Former Orlando Arena; 630 Amelia St, Orlando, FL	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Z29260.D	1	10/20/14	CP	n/a	n/a	VZ1133
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

## Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	PQL	MDL	Units	Q
71-43-2	Benzene	0.24 U	1.0	0.24	ug/l	
108-88-3	Toluene	0.20 U	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	0.28 U	1.0	0.28	ug/l	
1330-20-7	Xylene (total)	0.66 U	3.0	0.66	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.20 U	1.0	0.20	ug/l	
91-20-3	Naphthalene	1.0 U	5.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	95%		83-118%
17060-07-0	1,2-Dichloroethane-D4	109%		79-125%
2037-26-5	Toluene-D8	96%		85-112%
460-00-4	4-Bromofluorobenzene	95%		83-118%

U = Not detected      MDL = Method Detection Limit  
PQL = Practical Quantitation Limit  
L = Indicates value exceeds calibration range

I = Result > = MDL but < PQL    J = Estimated value  
V = Indicates analyte found in associated method blank  
N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b>	MW-1 10/16/14	<b>Date Sampled:</b>	10/16/14
<b>Lab Sample ID:</b>	FA19167-2	<b>Date Received:</b>	10/16/14
<b>Matrix:</b>	AQ - Ground Water	<b>Percent Solids:</b>	n/a
<b>Method:</b>	SW846 8151A SW846 8151A		
<b>Project:</b>	Former Orlando Arena; 630 Amelia St, Orlando, FL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	CC045915.D	1	10/24/14	NJ	10/23/14	OP53633	GCC745
Run #2							

	Initial Volume	Final Volume
Run #1	260 ml	5.0 ml
Run #2		

## Herbicide List

CAS No.	Compound	Result	PQL	MDL	Units	Q
94-75-7	2,4-D	0.35 U	1.9	0.35	ug/l	
93-72-1	2,4,5-TP (Silvex)	0.058 U	0.19	0.058	ug/l	
93-76-5	2,4,5-T	0.056 U	0.19	0.056	ug/l	
1918-00-9	Dicamba	0.053 U	0.19	0.053	ug/l	
88-85-7	Dinoseb	0.96 U	3.8	0.96	ug/l	
75-99-0	Dalapon	1.9 U	4.8	1.9	ug/l	
120-36-5	Dichloroprop	0.40 U	1.9	0.40	ug/l	
94-82-6	2,4-DB	0.63 U	1.9	0.63	ug/l	
93-65-2	MCPPP	25 U	190	25	ug/l	
94-74-6	MCPA	40 U	190	40	ug/l	
87-86-5	Pentachlorophenol	0.044 U	0.19	0.044	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
19719-28-9	2,4-DCAA	56%		33-145%

U = Not detected      MDL = Method Detection Limit  
PQL = Practical Quantitation Limit  
L = Indicates value exceeds calibration range

I = Result > = MDL but < PQL    J = Estimated value  
V = Indicates analyte found in associated method blank  
N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b>	MW-1 10/16/14	<b>Date Sampled:</b>	10/16/14
<b>Lab Sample ID:</b>	FA19167-2	<b>Date Received:</b>	10/16/14
<b>Matrix:</b>	AQ - Ground Water	<b>Percent Solids:</b>	n/a
<b>Method:</b>	SW846 8081B SW846 3510C		
<b>Project:</b>	Former Orlando Arena; 630 Amelia St, Orlando, FL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 <sup>a</sup>	KK67084.D	1	10/23/14	GB	10/21/14	OP53597	GKK2210
Run #2							

	Initial Volume	Final Volume
Run #1	260 ml	5.0 ml
Run #2		

## Pesticide PPL List

CAS No.	Compound	Result	PQL	MDL	Units	Q
309-00-2	Aldrin	0.0062 U	0.038	0.0062	ug/l	
319-84-6	alpha-BHC	0.0038 U	0.038	0.0038	ug/l	
319-85-7	beta-BHC	0.054	0.038	0.010	ug/l	
319-86-8	delta-BHC	0.0076 U	0.038	0.0076	ug/l	
58-89-9	gamma-BHC (Lindane)	0.0040 U	0.038	0.0040	ug/l	
12789-03-6	Chlordane	0.16 U	0.38	0.16	ug/l	
60-57-1	Dieldrin	0.0064 U	0.038	0.0064	ug/l	
72-54-8	4,4' -DDD	0.0096 U	0.077	0.0096	ug/l	
72-55-9	4,4' -DDE	0.018	0.077	0.014	ug/l	I
50-29-3	4,4' -DDT	0.0096 U	0.077	0.0096	ug/l	
72-20-8	Endrin	0.032	0.077	0.0067	ug/l	I
1031-07-8	Endosulfan sulfate	0.0064 U	0.077	0.0064	ug/l	
7421-93-4	Endrin aldehyde	0.0063 U	0.077	0.0063	ug/l	
959-98-8	Endosulfan-I	0.0063 U	0.038	0.0063	ug/l	
33213-65-9	Endosulfan-II	0.0077 U	0.038	0.0077	ug/l	
76-44-8	Heptachlor	0.0060 U	0.038	0.0060	ug/l	
1024-57-3	Heptachlor epoxide	0.049	0.038	0.0069	ug/l	
72-43-5	Methoxychlor	0.0096 U	0.077	0.0096	ug/l	
8001-35-2	Toxaphene	1.1 U	1.9	1.1	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	59%		42-127%
2051-24-3	Decachlorobiphenyl	64%		27-127%

(a) All hits confirmed by dual column analysis.

U = Not detected      MDL = Method Detection Limit  
PQL = Practical Quantitation Limit  
L = Indicates value exceeds calibration range

I = Result > = MDL but < PQL    J = Estimated value  
V = Indicates analyte found in associated method blank  
N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> MW-1 10/16/14	
<b>Lab Sample ID:</b> FA19167-2	<b>Date Sampled:</b> 10/16/14
<b>Matrix:</b> AQ - Ground Water	<b>Date Received:</b> 10/16/14
<b>Method:</b> SW846 8141B SW846 3510C	<b>Percent Solids:</b> n/a
<b>Project:</b> Former Orlando Arena; 630 Amelia St, Orlando, FL	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	ZZ25664.D	1	10/22/14	MRE	10/21/14	OP53593	GZZ952
Run #2							

	Initial Volume	Final Volume
Run #1	260 ml	2.0 ml
Run #2		

## Organophosphorus Pesticides

CAS No.	Compound	Result	PQL	MDL	Units	Q
35400-43-2	Bolstar	0.57 U	1.5	0.57	ug/l	
2921-88-2	Chlorpyrifos	0.51 U	1.5	0.51	ug/l	
56-72-4	Coumaphos	0.60 U	1.5	0.60	ug/l	
8065-48-3	Demeton	0.90 U	3.1	0.90	ug/l	
333-41-5	Diazinon	0.43 U	1.5	0.43	ug/l	
62-73-7	Dichlorvos	0.50 U	1.5	0.50	ug/l	
60-51-5	Dimethoate	0.42 U	1.5	0.42	ug/l	
298-04-4	Disulfoton	0.45 U	1.5	0.45	ug/l	
2104-64-5	EPN	0.49 U	1.5	0.49	ug/l	
13194-48-4	Ethoprop	0.35 U	1.5	0.35	ug/l	
56-38-2	Ethyl Parathion	0.45 U	1.5	0.45	ug/l	
115-90-2	Fensulfothion	1.1 U	1.5	1.1	ug/l	
55-38-9	Fenthion	0.47 U	1.5	0.47	ug/l	
121-75-5	Malathion	0.36 U	1.5	0.36	ug/l	
86-50-0	Methyl Azinphos (Guthion)	0.45 U	1.5	0.45	ug/l	
298-00-0	Methyl Parathion	0.40 U	1.5	0.40	ug/l	
150-50-5	Merphos	1.2 U	3.8	1.2	ug/l	
7786-34-7	Mevinphos	0.46 U	1.5	0.46	ug/l	
6923-22-4	Monocrotophos <sup>a</sup>	0.77 U	3.8	0.77	ug/l	
300-76-5	Naled <sup>b</sup>	0.54 U	1.5	0.54	ug/l	
298-02-2	Phorate	0.34 U	1.5	0.34	ug/l	
299-84-3	Ronnel	0.45 U	1.5	0.45	ug/l	
3689-24-5	Sulfotep	0.44 U	1.5	0.44	ug/l	
22248-79-9	Stirophos	0.47 U	1.5	0.47	ug/l	
107-49-3	TEPP <sup>a</sup>	1.5 U	3.8	1.5	ug/l	
34643-46-4	Tokuthion	0.67 U	1.5	0.67	ug/l	
327-98-0	Trichloronate	0.70 U	1.5	0.70	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
126-73-8	Tributyl phosphate	112%		47-140%

U = Not detected      MDL = Method Detection Limit  
PQL = Practical Quantitation Limit  
L = Indicates value exceeds calibration range

I = Result > = MDL but < PQL    J = Estimated value  
V = Indicates analyte found in associated method blank  
N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> MW-1 10/16/14	
<b>Lab Sample ID:</b> FA19167-2	<b>Date Sampled:</b> 10/16/14
<b>Matrix:</b> AQ - Ground Water	<b>Date Received:</b> 10/16/14
<b>Method:</b> SW846 8141B SW846 3510C	<b>Percent Solids:</b> n/a
<b>Project:</b> Former Orlando Arena; 630 Amelia St, Orlando, FL	

### Organophosphorus Pesticides

CAS No.	Compound	Result	PQL	MDL	Units	Q
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- (a) Associated BS recovery outside control limits.
- (b) Associated CCV and BS outside control limits.

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U = Not detected      MDL = Method Detection Limit      I = Result > = MDL but < PQL      J = Estimated value  
 PQL = Practical Quantitation Limit      V = Indicates analyte found in associated method blank  
 L = Indicates value exceeds calibration range      N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> MW-1 10/16/14	<b>Date Sampled:</b> 10/16/14
<b>Lab Sample ID:</b> FA19167-2	<b>Date Received:</b> 10/16/14
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Project:</b> Former Orlando Arena; 630 Amelia St, Orlando, FL	

### Total Metals Analysis

Analyte	Result	PQL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	2.4 U	10	2.4	ug/l	1	10/20/14	10/20/14 LM	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>

(1) Instrument QC Batch: MA11975

(2) Prep QC Batch: MP28082

PQL = Practical Quantitation Limit  
MDL = Method Detection Limit

U = Indicates a result < MDL  
I = Indicates a result > = MDL but < PQL

## Report of Analysis

<b>Client Sample ID:</b> MW-4 10/16/14	<b>Date Sampled:</b> 10/16/14
<b>Lab Sample ID:</b> FA19167-3	<b>Date Received:</b> 10/16/14
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8260B	
<b>Project:</b> Former Orlando Arena; 630 Amelia St, Orlando, FL	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Z29261.D	1	10/20/14	CP	n/a	n/a	VZ1133
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

## Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	PQL	MDL	Units	Q
71-43-2	Benzene	0.36	1.0	0.24	ug/l	I
108-88-3	Toluene	0.87	1.0	0.20	ug/l	I
100-41-4	Ethylbenzene	1.6	1.0	0.28	ug/l	
1330-20-7	Xylene (total)	11.0	3.0	0.66	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.20 U	1.0	0.20	ug/l	
91-20-3	Naphthalene	1.0 U	5.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	96%		83-118%
17060-07-0	1,2-Dichloroethane-D4	105%		79-125%
2037-26-5	Toluene-D8	96%		85-112%
460-00-4	4-Bromofluorobenzene	99%		83-118%

U = Not detected      MDL = Method Detection Limit  
PQL = Practical Quantitation Limit  
L = Indicates value exceeds calibration range

I = Result > = MDL but < PQL    J = Estimated value  
V = Indicates analyte found in associated method blank  
N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> MW-4 10/16/14	
<b>Lab Sample ID:</b> FA19167-3	<b>Date Sampled:</b> 10/16/14
<b>Matrix:</b> AQ - Ground Water	<b>Date Received:</b> 10/16/14
<b>Method:</b> SW846 8151A SW846 8151A	<b>Percent Solids:</b> n/a
<b>Project:</b> Former Orlando Arena; 630 Amelia St, Orlando, FL	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 <sup>a</sup>	CC045918.D	1	10/24/14	NJ	10/23/14	OP53633	GCC745
Run #2							

	Initial Volume	Final Volume
Run #1	260 ml	5.0 ml
Run #2		

## Herbicide List

CAS No.	Compound	Result	PQL	MDL	Units	Q
94-75-7	2,4-D	0.35 U	1.9	0.35	ug/l	
93-72-1	2,4,5-TP (Silvex)	0.058 U	0.19	0.058	ug/l	
93-76-5	2,4,5-T	0.056 U	0.19	0.056	ug/l	
1918-00-9	Dicamba	0.053 U	0.19	0.053	ug/l	
88-85-7	Dinoseb	0.96 U	3.8	0.96	ug/l	
75-99-0	Dalapon	1.9 U	4.8	1.9	ug/l	
120-36-5	Dichloroprop	0.40 U	1.9	0.40	ug/l	
94-82-6	2,4-DB	0.63 U	1.9	0.63	ug/l	
93-65-2	MCCPP	25 U	190	25	ug/l	
94-74-6	MCPA	40 U	190	40	ug/l	
87-86-5	Pentachlorophenol <sup>b</sup>	0.047	0.19	0.044	ug/l	I

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
19719-28-9	2,4-DCAA	129%		33-145%

(a) All hits confirmed by dual column analysis.

(b) Primary and confirmation results differ by more than 40%. Lower value reported due to possible coelution.

U = Not detected      MDL = Method Detection Limit  
PQL = Practical Quantitation Limit  
L = Indicates value exceeds calibration range

I = Result > = MDL but < PQL    J = Estimated value  
V = Indicates analyte found in associated method blank  
N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> MW-4 10/16/14	
<b>Lab Sample ID:</b> FA19167-3	<b>Date Sampled:</b> 10/16/14
<b>Matrix:</b> AQ - Ground Water	<b>Date Received:</b> 10/16/14
<b>Method:</b> SW846 8081B SW846 3510C	<b>Percent Solids:</b> n/a
<b>Project:</b> Former Orlando Arena; 630 Amelia St, Orlando, FL	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	KK67087.D	1	10/23/14	GB	10/21/14	OP53597	GKK2210
Run #2							

Run #	Initial Volume	Final Volume
Run #1	260 ml	5.0 ml
Run #2		

## Pesticide PPL List

CAS No.	Compound	Result	PQL	MDL	Units	Q
309-00-2	Aldrin	0.0062 U	0.038	0.0062	ug/l	
319-84-6	alpha-BHC	0.0038 U	0.038	0.0038	ug/l	
319-85-7	beta-BHC	0.010 U	0.038	0.010	ug/l	
319-86-8	delta-BHC	0.0076 U	0.038	0.0076	ug/l	
58-89-9	gamma-BHC (Lindane)	0.0040 U	0.038	0.0040	ug/l	
12789-03-6	Chlordane	0.16 U	0.38	0.16	ug/l	
60-57-1	Dieldrin	0.0064 U	0.038	0.0064	ug/l	
72-54-8	4,4' -DDD	0.0096 U	0.077	0.0096	ug/l	
72-55-9	4,4' -DDE	0.014 U	0.077	0.014	ug/l	
50-29-3	4,4' -DDT	0.0096 U	0.077	0.0096	ug/l	
72-20-8	Endrin	0.0067 U	0.077	0.0067	ug/l	
1031-07-8	Endosulfan sulfate	0.0064 U	0.077	0.0064	ug/l	
7421-93-4	Endrin aldehyde	0.0063 U	0.077	0.0063	ug/l	
959-98-8	Endosulfan-I	0.0063 U	0.038	0.0063	ug/l	
33213-65-9	Endosulfan-II	0.0077 U	0.038	0.0077	ug/l	
76-44-8	Heptachlor	0.0060 U	0.038	0.0060	ug/l	
1024-57-3	Heptachlor epoxide	0.0069 U	0.038	0.0069	ug/l	
72-43-5	Methoxychlor	0.0096 U	0.077	0.0096	ug/l	
8001-35-2	Toxaphene	1.1 U	1.9	1.1	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	50%		42-127%
2051-24-3	Decachlorobiphenyl	64%		27-127%

U = Not detected      MDL = Method Detection Limit  
PQL = Practical Quantitation Limit  
L = Indicates value exceeds calibration range

I = Result > = MDL but < PQL    J = Estimated value  
V = Indicates analyte found in associated method blank  
N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> MW-4 10/16/14	
<b>Lab Sample ID:</b> FA19167-3	<b>Date Sampled:</b> 10/16/14
<b>Matrix:</b> AQ - Ground Water	<b>Date Received:</b> 10/16/14
<b>Method:</b> SW846 8141B SW846 3510C	<b>Percent Solids:</b> n/a
<b>Project:</b> Former Orlando Arena; 630 Amelia St, Orlando, FL	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	ZZ25665.D	1	10/22/14	MRE	10/21/14	OP53593	GZZ952
Run #2							

	Initial Volume	Final Volume
Run #1	260 ml	2.0 ml
Run #2		

## Organophosphorus Pesticides

CAS No.	Compound	Result	PQL	MDL	Units	Q
35400-43-2	Bolstar	0.57 U	1.5	0.57	ug/l	
2921-88-2	Chlorpyrifos	0.51 U	1.5	0.51	ug/l	
56-72-4	Coumaphos	0.60 U	1.5	0.60	ug/l	
8065-48-3	Demeton	0.90 U	3.1	0.90	ug/l	
333-41-5	Diazinon	0.43 U	1.5	0.43	ug/l	
62-73-7	Dichlorvos	0.50 U	1.5	0.50	ug/l	
60-51-5	Dimethoate	0.42 U	1.5	0.42	ug/l	
298-04-4	Disulfoton	0.45 U	1.5	0.45	ug/l	
2104-64-5	EPN	0.49 U	1.5	0.49	ug/l	
13194-48-4	Ethoprop	0.35 U	1.5	0.35	ug/l	
56-38-2	Ethyl Parathion	0.45 U	1.5	0.45	ug/l	
115-90-2	Fensulfothion	1.1 U	1.5	1.1	ug/l	
55-38-9	Fenthion	0.47 U	1.5	0.47	ug/l	
121-75-5	Malathion	0.36 U	1.5	0.36	ug/l	
86-50-0	Methyl Azinphos (Guthion)	0.45 U	1.5	0.45	ug/l	
298-00-0	Methyl Parathion	0.40 U	1.5	0.40	ug/l	
150-50-5	Merphos	1.2 U	3.8	1.2	ug/l	
7786-34-7	Mevinphos	0.46 U	1.5	0.46	ug/l	
6923-22-4	Monocrotophos <sup>a</sup>	0.77 U	3.8	0.77	ug/l	
300-76-5	Naled <sup>b</sup>	0.54 U	1.5	0.54	ug/l	
298-02-2	Phorate	0.34 U	1.5	0.34	ug/l	
299-84-3	Ronnel	0.45 U	1.5	0.45	ug/l	
3689-24-5	Sulfotep	0.44 U	1.5	0.44	ug/l	
22248-79-9	Stirophos	0.47 U	1.5	0.47	ug/l	
107-49-3	TEPP <sup>a</sup>	1.5 U	3.8	1.5	ug/l	
34643-46-4	Tokuthion	0.67 U	1.5	0.67	ug/l	
327-98-0	Trichloronate	0.70 U	1.5	0.70	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
126-73-8	Tributyl phosphate	123%		47-140%

U = Not detected      MDL = Method Detection Limit  
PQL = Practical Quantitation Limit  
L = Indicates value exceeds calibration range

I = Result > = MDL but < PQL    J = Estimated value  
V = Indicates analyte found in associated method blank  
N = Indicates presumptive evidence of a compound



## Report of Analysis



<b>Client Sample ID:</b> MW-4 10/16/14 <b>Lab Sample ID:</b> FA19167-3 <b>Matrix:</b> AQ - Ground Water <b>Project:</b> Former Orlando Arena; 630 Amelia St, Orlando, FL	<b>Date Sampled:</b> 10/16/14 <b>Date Received:</b> 10/16/14 <b>Percent Solids:</b> n/a
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**Total Metals Analysis**

Analyte	Result	PQL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	11.4	10	2.4	ug/l	1	10/20/14	10/20/14 LM	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>

(1) Instrument QC Batch: MA11975

(2) Prep QC Batch: MP28082

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PQL = Practical Quantitation Limit  
 MDL = Method Detection Limit

U = Indicates a result < MDL  
 I = Indicates a result > = MDL but < PQL

## Report of Analysis

<b>Client Sample ID:</b>	MW-3 10/16/14	<b>Date Sampled:</b>	10/16/14
<b>Lab Sample ID:</b>	FA19167-4	<b>Date Received:</b>	10/16/14
<b>Matrix:</b>	AQ - Ground Water	<b>Percent Solids:</b>	n/a
<b>Method:</b>	SW846 8260B		
<b>Project:</b>	Former Orlando Arena; 630 Amelia St, Orlando, FL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Z29262.D	1	10/20/14	CP	n/a	n/a	VZ1133
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

## Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	PQL	MDL	Units	Q
71-43-2	Benzene	0.24 U	1.0	0.24	ug/l	
108-88-3	Toluene	0.27	1.0	0.20	ug/l	I
100-41-4	Ethylbenzene	0.71	1.0	0.28	ug/l	I
1330-20-7	Xylene (total)	5.1	3.0	0.66	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.20 U	1.0	0.20	ug/l	
91-20-3	Naphthalene	1.0 U	5.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	95%		83-118%
17060-07-0	1,2-Dichloroethane-D4	109%		79-125%
2037-26-5	Toluene-D8	97%		85-112%
460-00-4	4-Bromofluorobenzene	98%		83-118%

U = Not detected      MDL = Method Detection Limit  
PQL = Practical Quantitation Limit  
L = Indicates value exceeds calibration range

I = Result > = MDL but < PQL    J = Estimated value  
V = Indicates analyte found in associated method blank  
N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b>	MW-3 10/16/14	<b>Date Sampled:</b>	10/16/14
<b>Lab Sample ID:</b>	FA19167-4	<b>Date Received:</b>	10/16/14
<b>Matrix:</b>	AQ - Ground Water	<b>Percent Solids:</b>	n/a
<b>Method:</b>	SW846 8151A SW846 8151A		
<b>Project:</b>	Former Orlando Arena; 630 Amelia St, Orlando, FL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 <sup>a</sup>	CC045919.D	1	10/24/14	NJ	10/23/14	OP53633	GCC745
Run #2							

	Initial Volume	Final Volume
Run #1	260 ml	5.0 ml
Run #2		

## Herbicide List

CAS No.	Compound	Result	PQL	MDL	Units	Q
94-75-7	2,4-D	0.35 U	1.9	0.35	ug/l	
93-72-1	2,4,5-TP (Silvex)	0.058 U	0.19	0.058	ug/l	
93-76-5	2,4,5-T	0.056 U	0.19	0.056	ug/l	
1918-00-9	Dicamba	0.053 U	0.19	0.053	ug/l	
88-85-7	Dinoseb	0.96 U	3.8	0.96	ug/l	
75-99-0	Dalapon	1.9 U	4.8	1.9	ug/l	
120-36-5	Dichloroprop	0.40 U	1.9	0.40	ug/l	
94-82-6	2,4-DB	0.63 U	1.9	0.63	ug/l	
93-65-2	MCPPP	25 U	190	25	ug/l	
94-74-6	MCPA	40 U	190	40	ug/l	
87-86-5	Pentachlorophenol <sup>b</sup>	0.054	0.19	0.044	ug/l	I

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
19719-28-9	2,4-DCAA	112%		33-145%

(a) All hits confirmed by dual column analysis.

(b) Primary and confirmation results differ by more than 40%. Lower value reported due to possible coelution.

U = Not detected      MDL = Method Detection Limit  
 PQL = Practical Quantitation Limit  
 L = Indicates value exceeds calibration range

I = Result > = MDL but < PQL    J = Estimated value  
 V = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> MW-3 10/16/14	<b>Date Sampled:</b> 10/16/14
<b>Lab Sample ID:</b> FA19167-4	<b>Date Received:</b> 10/16/14
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8081B SW846 3510C	
<b>Project:</b> Former Orlando Arena; 630 Amelia St, Orlando, FL	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	KK67088.D	1	10/23/14	GB	10/21/14	OP53597	GKK2210
Run #2							

Run #	Initial Volume	Final Volume
Run #1	260 ml	5.0 ml
Run #2		

## Pesticide PPL List

CAS No.	Compound	Result	PQL	MDL	Units	Q
309-00-2	Aldrin	0.0062 U	0.038	0.0062	ug/l	
319-84-6	alpha-BHC	0.0038 U	0.038	0.0038	ug/l	
319-85-7	beta-BHC	0.010 U	0.038	0.010	ug/l	
319-86-8	delta-BHC	0.0076 U	0.038	0.0076	ug/l	
58-89-9	gamma-BHC (Lindane)	0.0040 U	0.038	0.0040	ug/l	
12789-03-6	Chlordane	0.16 U	0.38	0.16	ug/l	
60-57-1	Dieldrin	0.0064 U	0.038	0.0064	ug/l	
72-54-8	4,4' -DDD	0.0096 U	0.077	0.0096	ug/l	
72-55-9	4,4' -DDE	0.014 U	0.077	0.014	ug/l	
50-29-3	4,4' -DDT	0.0096 U	0.077	0.0096	ug/l	
72-20-8	Endrin	0.0067 U	0.077	0.0067	ug/l	
1031-07-8	Endosulfan sulfate	0.0064 U	0.077	0.0064	ug/l	
7421-93-4	Endrin aldehyde	0.0063 U	0.077	0.0063	ug/l	
959-98-8	Endosulfan-I	0.0063 U	0.038	0.0063	ug/l	
33213-65-9	Endosulfan-II	0.0077 U	0.038	0.0077	ug/l	
76-44-8	Heptachlor	0.0060 U	0.038	0.0060	ug/l	
1024-57-3	Heptachlor epoxide	0.0069 U	0.038	0.0069	ug/l	
72-43-5	Methoxychlor	0.0096 U	0.077	0.0096	ug/l	
8001-35-2	Toxaphene	1.1 U	1.9	1.1	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	55%		42-127%
2051-24-3	Decachlorobiphenyl	39%		27-127%

U = Not detected      MDL = Method Detection Limit  
PQL = Practical Quantitation Limit  
L = Indicates value exceeds calibration range

I = Result > = MDL but < PQL    J = Estimated value  
V = Indicates analyte found in associated method blank  
N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> MW-3 10/16/14	<b>Date Sampled:</b> 10/16/14
<b>Lab Sample ID:</b> FA19167-4	<b>Date Received:</b> 10/16/14
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8141B SW846 3510C	
<b>Project:</b> Former Orlando Arena; 630 Amelia St, Orlando, FL	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	ZZ25666.D	1	10/22/14	MRE	10/21/14	OP53593	GZZ952
Run #2							

	Initial Volume	Final Volume
Run #1	260 ml	2.0 ml
Run #2		

## Organophosphorus Pesticides

CAS No.	Compound	Result	PQL	MDL	Units	Q
35400-43-2	Bolstar	0.57 U	1.5	0.57	ug/l	
2921-88-2	Chlorpyrifos	0.51 U	1.5	0.51	ug/l	
56-72-4	Coumaphos	0.60 U	1.5	0.60	ug/l	
8065-48-3	Demeton	0.90 U	3.1	0.90	ug/l	
333-41-5	Diazinon	0.43 U	1.5	0.43	ug/l	
62-73-7	Dichlorvos	0.50 U	1.5	0.50	ug/l	
60-51-5	Dimethoate	0.42 U	1.5	0.42	ug/l	
298-04-4	Disulfoton	0.45 U	1.5	0.45	ug/l	
2104-64-5	EPN	0.49 U	1.5	0.49	ug/l	
13194-48-4	Ethoprop	0.35 U	1.5	0.35	ug/l	
56-38-2	Ethyl Parathion	0.45 U	1.5	0.45	ug/l	
115-90-2	Fensulfothion	1.1 U	1.5	1.1	ug/l	
55-38-9	Fenthion	0.47 U	1.5	0.47	ug/l	
121-75-5	Malathion	0.36 U	1.5	0.36	ug/l	
86-50-0	Methyl Azinphos (Guthion)	0.45 U	1.5	0.45	ug/l	
298-00-0	Methyl Parathion	0.40 U	1.5	0.40	ug/l	
150-50-5	Merphos	1.2 U	3.8	1.2	ug/l	
7786-34-7	Mevinphos	0.46 U	1.5	0.46	ug/l	
6923-22-4	Monocrotophos <sup>a</sup>	0.77 U	3.8	0.77	ug/l	
300-76-5	Naled <sup>b</sup>	0.54 U	1.5	0.54	ug/l	
298-02-2	Phorate	0.34 U	1.5	0.34	ug/l	
299-84-3	Ronnel	0.45 U	1.5	0.45	ug/l	
3689-24-5	Sulfotep	0.44 U	1.5	0.44	ug/l	
22248-79-9	Stirophos	0.47 U	1.5	0.47	ug/l	
107-49-3	TEPP <sup>a</sup>	1.5 U	3.8	1.5	ug/l	
34643-46-4	Tokuthion	0.67 U	1.5	0.67	ug/l	
327-98-0	Trichloronate	0.70 U	1.5	0.70	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
126-73-8	Tributyl phosphate	133%		47-140%

U = Not detected MDL = Method Detection Limit  
PQL = Practical Quantitation Limit  
L = Indicates value exceeds calibration range

I = Result > = MDL but < PQL J = Estimated value  
V = Indicates analyte found in associated method blank  
N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> MW-3 10/16/14		<b>Date Sampled:</b> 10/16/14
<b>Lab Sample ID:</b> FA19167-4		<b>Date Received:</b> 10/16/14
<b>Matrix:</b> AQ - Ground Water		<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8141B SW846 3510C		
<b>Project:</b> Former Orlando Arena; 630 Amelia St, Orlando, FL		

### Organophosphorus Pesticides

CAS No.	Compound	Result	PQL	MDL	Units	Q
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- (a) Associated BS recovery outside control limits.
- (b) Associated CCV and BS outside control limits.

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U = Not detected	MDL = Method Detection Limit	I = Result > = MDL but < PQL
PQL = Practical Quantitation Limit		J = Estimated value
L = Indicates value exceeds calibration range		V = Indicates analyte found in associated method blank
		N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> MW-3 10/16/14	<b>Date Sampled:</b> 10/16/14
<b>Lab Sample ID:</b> FA19167-4	<b>Date Received:</b> 10/16/14
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Project:</b> Former Orlando Arena; 630 Amelia St, Orlando, FL	

### Total Metals Analysis

Analyte	Result	PQL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	5.5 I	10	2.4	ug/l	1	10/20/14	10/20/14 LM	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>

(1) Instrument QC Batch: MA11975

(2) Prep QC Batch: MP28082

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PQL = Practical Quantitation Limit  
MDL = Method Detection Limit

U = Indicates a result < MDL  
I = Indicates a result > = MDL but < PQL

## Report of Analysis

<b>Client Sample ID:</b> MW-5 10/16/14	<b>Date Sampled:</b> 10/16/14
<b>Lab Sample ID:</b> FA19167-5	<b>Date Received:</b> 10/16/14
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8260B	
<b>Project:</b> Former Orlando Arena; 630 Amelia St, Orlando, FL	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Z29263.D	1	10/20/14	CP	n/a	n/a	VZ1133
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

## Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	PQL	MDL	Units	Q
71-43-2	Benzene	0.24 U	1.0	0.24	ug/l	
108-88-3	Toluene	0.20 U	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	0.28 U	1.0	0.28	ug/l	
1330-20-7	Xylene (total)	0.66 U	3.0	0.66	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.20 U	1.0	0.20	ug/l	
91-20-3	Naphthalene	1.0 U	5.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	94%		83-118%
17060-07-0	1,2-Dichloroethane-D4	108%		79-125%
2037-26-5	Toluene-D8	97%		85-112%
460-00-4	4-Bromofluorobenzene	95%		83-118%

U = Not detected      MDL = Method Detection Limit  
PQL = Practical Quantitation Limit  
L = Indicates value exceeds calibration range

I = Result > = MDL but < PQL    J = Estimated value  
V = Indicates analyte found in associated method blank  
N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b>	MW-5 10/16/14	<b>Date Sampled:</b>	10/16/14
<b>Lab Sample ID:</b>	FA19167-5	<b>Date Received:</b>	10/16/14
<b>Matrix:</b>	AQ - Ground Water	<b>Percent Solids:</b>	n/a
<b>Method:</b>	SW846 8151A SW846 8151A		
<b>Project:</b>	Former Orlando Arena; 630 Amelia St, Orlando, FL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	CC045920.D	1	10/24/14	NJ	10/23/14	OP53633	GCC745
Run #2							

	Initial Volume	Final Volume
Run #1	260 ml	5.0 ml
Run #2		

## Herbicide List

CAS No.	Compound	Result	PQL	MDL	Units	Q
94-75-7	2,4-D	0.35 U	1.9	0.35	ug/l	
93-72-1	2,4,5-TP (Silvex)	0.058 U	0.19	0.058	ug/l	
93-76-5	2,4,5-T	0.056 U	0.19	0.056	ug/l	
1918-00-9	Dicamba	0.053 U	0.19	0.053	ug/l	
88-85-7	Dinoseb	0.96 U	3.8	0.96	ug/l	
75-99-0	Dalapon	1.9 U	4.8	1.9	ug/l	
120-36-5	Dichloroprop	0.40 U	1.9	0.40	ug/l	
94-82-6	2,4-DB	0.63 U	1.9	0.63	ug/l	
93-65-2	MCPPP	25 U	190	25	ug/l	
94-74-6	MCPA	40 U	190	40	ug/l	
87-86-5	Pentachlorophenol	0.044 U	0.19	0.044	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
19719-28-9	2,4-DCAA	72%		33-145%

U = Not detected      MDL = Method Detection Limit  
PQL = Practical Quantitation Limit  
L = Indicates value exceeds calibration range

I = Result > = MDL but < PQL    J = Estimated value  
V = Indicates analyte found in associated method blank  
N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> MW-5 10/16/14	
<b>Lab Sample ID:</b> FA19167-5	<b>Date Sampled:</b> 10/16/14
<b>Matrix:</b> AQ - Ground Water	<b>Date Received:</b> 10/16/14
<b>Method:</b> SW846 8081B SW846 3510C	<b>Percent Solids:</b> n/a
<b>Project:</b> Former Orlando Arena; 630 Amelia St, Orlando, FL	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	KK67089.D	1	10/23/14	GB	10/21/14	OP53597	GKK2210
Run #2							

	Initial Volume	Final Volume
Run #1	260 ml	5.0 ml
Run #2		

## Pesticide PPL List

CAS No.	Compound	Result	PQL	MDL	Units	Q
309-00-2	Aldrin	0.0062 U	0.038	0.0062	ug/l	
319-84-6	alpha-BHC	0.0038 U	0.038	0.0038	ug/l	
319-85-7	beta-BHC	0.010 U	0.038	0.010	ug/l	
319-86-8	delta-BHC	0.0076 U	0.038	0.0076	ug/l	
58-89-9	gamma-BHC (Lindane)	0.0040 U	0.038	0.0040	ug/l	
12789-03-6	Chlordane	0.16 U	0.38	0.16	ug/l	
60-57-1	Dieldrin	0.0064 U	0.038	0.0064	ug/l	
72-54-8	4,4' -DDD	0.0096 U	0.077	0.0096	ug/l	
72-55-9	4,4' -DDE	0.014 U	0.077	0.014	ug/l	
50-29-3	4,4' -DDT	0.0096 U	0.077	0.0096	ug/l	
72-20-8	Endrin	0.0067 U	0.077	0.0067	ug/l	
1031-07-8	Endosulfan sulfate	0.0064 U	0.077	0.0064	ug/l	
7421-93-4	Endrin aldehyde	0.0063 U	0.077	0.0063	ug/l	
959-98-8	Endosulfan-I	0.0063 U	0.038	0.0063	ug/l	
33213-65-9	Endosulfan-II	0.0077 U	0.038	0.0077	ug/l	
76-44-8	Heptachlor	0.0060 U	0.038	0.0060	ug/l	
1024-57-3	Heptachlor epoxide	0.0069 U	0.038	0.0069	ug/l	
72-43-5	Methoxychlor	0.0096 U	0.077	0.0096	ug/l	
8001-35-2	Toxaphene	1.1 U	1.9	1.1	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	63%		42-127%
2051-24-3	Decachlorobiphenyl	60%		27-127%

U = Not detected      MDL = Method Detection Limit  
PQL = Practical Quantitation Limit  
L = Indicates value exceeds calibration range

I = Result > = MDL but < PQL    J = Estimated value  
V = Indicates analyte found in associated method blank  
N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b>	MW-5 10/16/14	<b>Date Sampled:</b>	10/16/14
<b>Lab Sample ID:</b>	FA19167-5	<b>Date Received:</b>	10/16/14
<b>Matrix:</b>	AQ - Ground Water	<b>Percent Solids:</b>	n/a
<b>Method:</b>	SW846 8141B SW846 3510C		
<b>Project:</b>	Former Orlando Arena; 630 Amelia St, Orlando, FL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	ZZ25667.D	1	10/22/14	MRE	10/21/14	OP53593	GZZ952
Run #2							

	Initial Volume	Final Volume
Run #1	260 ml	2.0 ml
Run #2		

## Organophosphorus Pesticides

CAS No.	Compound	Result	PQL	MDL	Units	Q
35400-43-2	Bolstar	0.57 U	1.5	0.57	ug/l	
2921-88-2	Chlorpyrifos	0.51 U	1.5	0.51	ug/l	
56-72-4	Coumaphos	0.60 U	1.5	0.60	ug/l	
8065-48-3	Demeton	0.90 U	3.1	0.90	ug/l	
333-41-5	Diazinon	0.43 U	1.5	0.43	ug/l	
62-73-7	Dichlorvos	0.50 U	1.5	0.50	ug/l	
60-51-5	Dimethoate	0.42 U	1.5	0.42	ug/l	
298-04-4	Disulfoton	0.45 U	1.5	0.45	ug/l	
2104-64-5	EPN	0.49 U	1.5	0.49	ug/l	
13194-48-4	Ethoprop	0.35 U	1.5	0.35	ug/l	
56-38-2	Ethyl Parathion	0.45 U	1.5	0.45	ug/l	
115-90-2	Fensulfothion	1.1 U	1.5	1.1	ug/l	
55-38-9	Fenthion	0.47 U	1.5	0.47	ug/l	
121-75-5	Malathion	0.36 U	1.5	0.36	ug/l	
86-50-0	Methyl Azinphos (Guthion)	0.45 U	1.5	0.45	ug/l	
298-00-0	Methyl Parathion	0.40 U	1.5	0.40	ug/l	
150-50-5	Merphos	1.2 U	3.8	1.2	ug/l	
7786-34-7	Mevinphos	0.46 U	1.5	0.46	ug/l	
6923-22-4	Monocrotophos <sup>a</sup>	0.77 U	3.8	0.77	ug/l	
300-76-5	Naled <sup>b</sup>	0.54 U	1.5	0.54	ug/l	
298-02-2	Phorate	0.34 U	1.5	0.34	ug/l	
299-84-3	Ronnel	0.45 U	1.5	0.45	ug/l	
3689-24-5	Sulfotep	0.44 U	1.5	0.44	ug/l	
22248-79-9	Stirophos	0.47 U	1.5	0.47	ug/l	
107-49-3	TEPP <sup>a</sup>	1.5 U	3.8	1.5	ug/l	
34643-46-4	Tokuthion	0.67 U	1.5	0.67	ug/l	
327-98-0	Trichloronate	0.70 U	1.5	0.70	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
126-73-8	Tributyl phosphate	128%		47-140%

U = Not detected      MDL = Method Detection Limit  
PQL = Practical Quantitation Limit  
L = Indicates value exceeds calibration range

I = Result > = MDL but < PQL    J = Estimated value  
V = Indicates analyte found in associated method blank  
N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> MW-5 10/16/14		<b>Date Sampled:</b> 10/16/14
<b>Lab Sample ID:</b> FA19167-5		<b>Date Received:</b> 10/16/14
<b>Matrix:</b> AQ - Ground Water		<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8141B SW846 3510C		
<b>Project:</b> Former Orlando Arena; 630 Amelia St, Orlando, FL		

### Organophosphorus Pesticides

CAS No.	Compound	Result	PQL	MDL	Units	Q
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- (a) Associated BS recovery outside control limits.
- (b) Associated CCV and BS outside control limits.

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U = Not detected	MDL = Method Detection Limit	I = Result > = MDL but < PQL
PQL = Practical Quantitation Limit		J = Estimated value
L = Indicates value exceeds calibration range		V = Indicates analyte found in associated method blank
		N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> MW-5 10/16/14	<b>Date Sampled:</b> 10/16/14
<b>Lab Sample ID:</b> FA19167-5	<b>Date Received:</b> 10/16/14
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Project:</b> Former Orlando Arena; 630 Amelia St, Orlando, FL	

### Total Metals Analysis

Analyte	Result	PQL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	2.4 U	10	2.4	ug/l	1	10/20/14	10/20/14 LM	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>

(1) Instrument QC Batch: MA11975

(2) Prep QC Batch: MP28082

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PQL = Practical Quantitation Limit  
 MDL = Method Detection Limit

U = Indicates a result < MDL  
 I = Indicates a result > = MDL but < PQL

Misc. Forms

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Custody Documents and Other Forms

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Includes the following where applicable:

- Chain of Custody



ACCUTEST LABORATORIES SAMPLE RECEIPT CONFIRMATION

ACCUTEST'S JOB NUMBER: FA19167 CLIENT: ECT PROJECT: FORMER ORLANDO ARENA  
 DATE/TIME RECEIVED: 10/16/14 1500 (MM/DD/YY 24:00) NUMBER OF COOLERS RECEIVED: 1  
 METHOD OF DELIVERY: FEDEX UPS ACCUTEST COURIER GREYHOUND DELIVERY OTHER  
 AIRBILL NUMBERS: \_\_\_\_\_

COOLER INFORMATION

- CUSTODY SEAL NOT PRESENT OR NOT INTACT
- CHAIN OF CUSTODY NOT RECEIVED (COC)
- ANALYSIS REQUESTED IS UNCLEAR OR MISSING
- SAMPLE DATES OR TIMES UNCLEAR OR MISSING
- TEMPERATURE CRITERIA NOT MET

TRIP BLANK INFORMATION

- TRIP BLANK PROVIDED
- TRIP BLANK NOT PROVIDED
- TRIP BLANK NOT ON COC
- TRIP BLANK INTACT
- TRIP BLANK NOT INTACT
- RECEIVED WATER TRIP BLANK
- RECEIVED SOIL TRIP BLANK

MISC. INFORMATION

NUMBER OF ENCORES? 25-GRAM 5-GRAM  
 NUMBER OF 5035 FIELD KITS? \_\_\_\_\_  
 NUMBER OF LAB FILTERED METALS? \_\_\_\_\_

TEMPERATURE INFORMATION

- IR THERM ID #3 CORR. FACTOR -0.2
- OBSERVED TEMPS: 3.6
- CORRECTED TEMPS: 3.4

SAMPLE INFORMATION

- INCORRECT NUMBER OF CONTAINERS USED
- SAMPLE RECEIVED IMPROPERLY PRESERVED
- INSUFFICIENT VOLUME FOR ANALYSIS
- DATES/TIMES ON COC DO NOT MATCH SAMPLE LABEL
- ID'S ON COC DO NOT MATCH LABEL
- VOC VIALS HAVE HEADSPACE (MACRO BUBBLES)
- BOTTLES RECEIVED BUT ANALYSIS NOT REQUESTED
- NO BOTTLES RECEIVED FOR ANALYSIS REQUESTED
- UNCLEAR FILTERING OR COMPOSITING INSTRUCTIONS
- SAMPLE CONTAINER(S) RECEIVED BROKEN
- 5035 FIELD KITS NOT RECEIVED WITHIN 48 HOURS
- BULK VOA SOIL JARS NOT RECEIVED WITHIN 48 HOURS
- % SOLIDS JAR NOT RECEIVED
- RESIDUAL CHLORINE PRESENT

(APPLICABLE TO EPA 600 SERIES OR NORTH CAROLINA ORGANICS)

SUMMARY OF COMMENTS: 8081, 8141, 8151 AMBERS ARE: 250 ML BOTTLES

TECHNICIAN SIGNATURE/DATE: [Signature] 10/16/14 REVIEWER SIGNATURE/DATE: Jay Se... 10-16-14

RS 04/14

receipt confirmation 041514.xls

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