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February 18, 2026

VIA Electronic Filing to the Office of Commission Clerk

Florida Public Service Commission
Office of Commission Clerk
2540 Shumard Oak Boulevard
Tallahassee, FL 32399-0850
Attn: Daniel Dose, Senior Attorney

Re: Docket 20250136-WS – Petition for an acquisition adjustment for a non-viable utility, by CSWR-Florida Utility Operating Company, LLC.

Dear Mr. Dose:

CSWR-Florida Utility Operating Company, LLC ("CSWR-Florida") submits the following responses to Staff's January 27, 2026 First Data Request.

Please refer to CSWR-Florida Utility Operating Company, LLC (CSWR-FL or Utility) petition for an acquisition adjustment relating to its 2022 acquisition of the Rolling Oaks Utilities, Inc. (Rolling Oaks) water and wastewater systems for the following questions (Document No. 14979-2025, filed on November 7, 2025):

1. Please explain, with specificity, the rationale for paying above net book value for the acquired utility.

Response: When evaluating a system for potential acquisition, CSWR-Florida consults publicly available documents, such as Commission annual reports and available information from health and environmental regulators. It also conducts site visits to get a better understanding of the plant configuration and the condition of the equipment. A final purchase price is determined through arms-length negotiations between the parties, with CSWR Florida's ultimate objective being to pay the least amount that a utility/seller will accept.

In practice, utility owners frequently have economic incentives to retain ownership rather than sell at net book value. One such incentive is the ability to compensate themselves or earn other financial benefits as a result of ownership. As a result, CSWR-Florida has not encountered a utility owner willing to sell a system at net book value absent extraordinary circumstances, such as receivership. This experience is

consistent with CSWR-Florida's prior acquisitions in Florida, all of which were negotiated at prices above net book value.

In addition, CSWR-Florida believes that the net book values for many small utility systems may be artificially low due to the regulatory structure under which those systems operate. Specifically, under annual price index adjustment mechanisms, utility owners may have limited incentive to capitalize infrastructure investments that would otherwise be capitalized in a traditional rate case environment. Over time, this can result in systems with aging or inadequate infrastructure, significant deferred maintenance, and net book values that do not reflect the true replacement cost or operational condition of the assets used to provide service. Consequently, net book value may materially understate the economic value of the system as a going concern and does not serve as a reliable indicator of market value in an arm's-length transaction.

Accordingly, CSWR-Florida's acquisition prices are not based on net book value alone, but rather reflect system-specific factors, including physical condition, operational risks, anticipated capital investment requirements, and the outcome of arm's-length negotiations between independent parties. This approach is consistent with CSWR-Florida's prior acquisition filings and testimony before the Commission.

2. Please explain how the proposed acquisition, which reflects an acquisition premium over the net book value of the acquired utility, is reasonable and consistent with Section 366.03, Florida Statutes.

Response: Section 366.03, Florida Statutes, provides in part that "Each public utility shall furnish to each person applying therefore reasonably sufficient, adequate, and efficient service upon terms as required by the commission." The Rolling Oaks water and wastewater systems were non-viable at the time of acquisition and were unable to provide and maintain safe, adequate and, reliable service and facilities to its customers. In addition, prior to their acquisition by CSWR-Florida, there was a history of enforcement and compliance actions for both the water and wastewater systems. These enforcement and compliance actions in addition to the other management failures, including the failure to invest in its system's assets, provided a level of customer service that was neither safe nor adequate. In addition, as discussed in the Petition, many of the systems' assets were in poor condition and were ~~was~~ at or near the end of ~~its~~ their useful operating ~~life~~ lives before CSWR-Florida acquired it. In addition, Rolling Oaks' annual reports show many years of insufficient investment and inadequate expenditures for repair and maintenance. CSWR-Florida is bringing sufficient, adequate, and efficient service to the customers.

Section 366.03 also provides that "All rates and charges . . . shall be fair and reasonable." The customers have benefitted tremendously from this acquisition, and

will continue to so benefit into the future. Section IV of the Petition lays out the range of benefits to customers, the most important of which is eliminating their dependence on the failing plant components of the Rolling Oaks systems. In addition, because these systems would be part of the much larger CSWR-Florida water and wastewater utility, through economies of scale and statewide rate consolidation the rate impact to customers is minimal as compared to the benefits and upgrades to their service. If the Commission grants the full acquisition adjustment requested, at the longest amortization to minimize rate impact as CSWR-Florida has requested, then the impact to customers of the acquisition adjustment is projected to be $10.51 per month if rates are consolidated by the Commission and $19.61 per month if rates are not consolidated. The acquisition and proposed acquisition adjustment provide substantially more of a benefit to customers than just being baseline reasonable.

3. Please identify and discuss any internal or external concerns raised about paying in excess of book value for the acquired utility.

Response: Certainly, the acquisition of the system was thoroughly reviewed, vetted, and discussed prior to closing, and no internal or external concerns were raised regarding payment in excess of net book value. The Company's mission is to acquire and rehabilitate small, distressed water and wastewater systems that lack the capital, scale, or technical resources necessary to provide safe and reliable service on a sustainable basis. CSWR Florida believed it could bring these and other benefits to the customers served by the Rolling Oaks water and wastewater systems, and the Company's performance since it acquired that system has proved those beliefs to be correct. In addition, based upon numerous acquisition transactions throughout the eleven-state footprint served by CSWR-affiliates, the Company knew that while regulators focus on the net book value of a system's assets the owners of those systems oftentimes focus on the market value of those same assets, which is almost always significantly greater. Therefore, while CSWR's utility affiliates always enter into negotiations with the objective of paying the least amount possible for the water and wastewater systems they acquire, many times sellers will not accept a final purchase price at or near the net book value of the assets being sold.

Recent changes to Florida's regulatory framework—including the Commission's adoption of fair market valuation concepts and updates to the acquisition adjustment rule applied in this docket—implicitly acknowledge the reality described above – i.e., that acquisitions may require a price above net book value. In addition, those policy changes demonstrate a clear preference for well-capitalized, professionally managed utilities to acquire and revitalize failing systems. These changes recognize that net book value alone does not reflect the economic realities of small utility ownership and the price those owners are willing to accept for their systems. They also recognize that due to the condition of aging infrastructure, or the level of capital investment required to restore systems to long-term viability, a sale of those systems to utilities better able to upgrade and maintain the systems is in the long-term best interests of

the customers served by those systems – even it that requires recognition of a purchase price above net book value.

Rather than focusing solely on the present net book value of assets that may be decades old, the Company takes a long-term view centered on system sustainability, service reliability, and environmental compliance. The Company believes Florida should welcome, encourage, and support substantial private capital investment by utilities willing and able to assume the risks associated with turning around distressed systems. Revitalizing these systems benefits customers, reduces the risk of service failures and environmental harm, and does so at reasonable rates and a reasonable return, consistent with the Commission's stated policy objectives.

4. Regarding this acquisition in relation to the acquisition adjustment requests in Docket Nos. 20250038-WS, 20250043-WS, 20250047-WS, and 20250130-WS, please explain the variation in acquisition premiums among the five acquired utilities and what factors contributed to those differences.

Response: Acquisition adjustments vary among CSWR-Florida's acquisition adjustment cases based on system-specific factors, including each utility's net book value, physical condition, operational viability, and the circumstances of the arm's-length negotiations with the seller. Each acquisition is evaluated on its own merits, and differences in these factors necessarily result in differences in purchase prices and associated acquisition premiums. Purchase price is not determined by net book value. CSWR-Florida has yet to encounter a system owner who will sell at net book value, when they have the alternative of continuing to run the system and defer maintenance and updates. Until the point of receivership or environmental disaster, the status quo and running down the system tends to be profitable.

With respect to the Rolling Oaks systems, the Citrus County Board of County Commissioners, by its Resolution No. 2024-040, rescinded its jurisdiction over the investor-owned water and wastewater utilities in the County, making Citrus County a Public Service Commission jurisdictional county once again. By Resolution No. 2022-108, the Citrus County Board of County Commissioners recommended that the net book values of the Rolling Oaks water and wastewater systems be set at $613,586 and $539,880 respectively, effective December 31, 2019. On July 25, 2024, the Public Service Commission by Order No. PSC-2024-0267-FOF-WS in Docket No. 20240095, acknowledged the County's relinquishment of jurisdiction. In Docket No. 20240130, CSWR-Florida applied to the Public Service Commission for grandfather certificates of authorization relating to the former Rolling Oaks water and wastewater systems, which were granted on July 21, 2025, by Order No. PSC-2025-0280-PAA-WS. The purchase price for the Rolling Oaks systems was determined through arm's-length negotiations between independent parties and reflects the specific characteristics and condition of that system at the time of acquisition. Accordingly, any acquisition

premium associated with the Rolling Oaks systems is attributable to those system-specific factors and differs from other dockets involving different utilities.

5. Please explain why no appraisal was obtained as part of CSWR-Florida's acquisition of the acquired utility.

Response: Please see Attachment "DR 5 – Valuation", which includes the third-party valuation report and all supporting documentation related to the valuation of the Rolling Oaks Utilities assets.

6. Please discuss if any lower-cost acquisition alternatives were considered.

Response: No, the Company did not consider purchasing a different system than this one as a lower-cost alternative, if that is the question. The Company has acquired a range of systems at a range of costs. The acquisition of this system was the product of arms-length negotiations. There was not a lower-cost alternative means to acquire this system.

7. Please indicate whether the Utility used or contemplated any risk-sharing mechanisms (e.g., seeking partial recovery of the premium, contingencies, etc.). If so, please discuss.

Response: No. CSWR-Florida did not use or contemplate any risk-sharing mechanisms, other than this acquisition adjustment recovery process. CSWR-Florida takes the risks of ownership when it acquires a system.

8. Please indicate whether the Utility considered voluntarily reducing the adjustment to mitigate ratepayer impact. If so, please discuss.

Response: No. CSWR-Florida believes the Rolling Oaks water system was non-viable and that customers have clearly benefited from this acquisition, as detailed in the Petition. To mitigate customer impact, CSWR-Florida has requested the maximum allowable amortization. CSWR-Florida's 5-year projected consolidated rate impact is $10.51 per customer per month. As such, the Company believes that the benefits provided far outweigh the projected rate impact.

9. Please provide documentation showing whether the Utility sought to renegotiate terms based on any discovered risks of acquiring the utility.

Response: None. No renegotiation of terms occurred.

10. Please identify and explain whether any scenarios were considered where a portion of the acquisition premium could be disallowed.

Response: No, the Company has taken the risks associated with acquiring this system. The Company is aware that the Commission may Order a partial acquisition adjustment or deny an acquisition adjustment. This may impact the Company's willingness to continue to invest in Florida by acquiring other systems, but it does not impact the acquisition of this system, which has long since closed.

11. Please provide a full breakdown of any additional costs related to the acquisition incremental to purchase price (i.e., transactional and regulatory costs).

Response: Please see the attachment "DR 11 – Additional Costs."

12. Please identify any problems or concerns that were raised during the due diligence period that could have or did effect the purchase price.

Response: None. The Company's mission is to acquire failing and neglected systems. These systems are all rife with problems and concerns.

13. Please indicate whether the acquisition was subject to an independent audit or review. If so, please discuss the results of such review.

Response: No, it was not. The Company makes its own acquisition decisions.

14. Please provide accounting journal entries showing how the acquisition adjustment will be recorded on the utility's books.

Response: Please see the attachment "DR 14 – Journal Entries."

15. Please provide a detailed post-acquisition pro forma financial statement, including revenue requirement impact, of the acquired utility.

Response: Please see the attachment "DR 15 – Post Acquisition Pro Forma."

16. Please provide a comparison of the revenue requirement with and without the acquisition adjustment of the acquired utility.

Response: Please refer to the response provided in Data Request 15.

17. Please identify any regulatory assets or liabilities created as a result of this transaction, if any, and cite Florida Public Service Commission approval/Order No.

Response: There are none.

18. Please identify all parties to the transaction and their relationships to CSWR (if any).

Response: The seller of the system assets of Rolling Oaks Utilities, Inc. was John W Patten, III, and his attorney for the transaction was Clark A Stillwell at Law Office of Clark A Stillwell, LLC. CSWR-Florida's acquisition of the Rolling Oaks system was an arms-length transaction. CSWR-Florida and Rolling Oaks Utilities, Inc. are non-affiliated, independent parties. There was no prior relationship or influence between them, or their principals.

19. Please briefly explain how operations, staffing, and service quality have been affected post-acquisition.

Response: Please refer to Part IV "Basis for Granting this Petition," specifically section 3, included in the Petition.

20. Please explain what steps are or have been taken to ensure a seamless transition for customers.

Response: CSWR-Florida has implemented a comprehensive transition plan designed to ensure continuity of service, minimize customer disruption, and enhance the overall customer experience following the acquisition. These measures address customer communications, billing continuity, operational responsiveness, and emergency preparedness.

Upon closing, customers receive a Welcome Letter explaining the change in ownership, customer service and emergency contact information, and billing and payment options. The most current customer information available is used when onboarding the system into CSWR-Florida's billing platform to ensure accurate billing and uninterrupted service. Existing rates are adopted at the time of acquisition to mitigate rate impacts during the transition.

Customers gain access to CSWR-Florida's centralized 24/7 customer service call center for billing inquiries, service requests, and emergency calls. Licensed operations and maintenance personnel are on call at all times to respond to service interruptions or emergencies, supported by remote system and water quality monitoring that allows for prompt identification and resolution of operational issues. Customers also have access to electronic billing and an online customer portal, which improves

communication and reduces the potential for service or billing disruptions during the transition.

21. Please indicate whether any customer protections were included in the transaction. If so, please identify and discuss the specific customer protections.

Response: Customers benefit from the acquisition as extensively detailed in the Petition. The system rates were continued after acquisition. The Company has requested the maximum amortization of the acquisition adjustment to minimize impacts to customers. Customers are best protected by CSWR-Florida's delivery of sufficient, adequate, and efficient service as compared to the prior owner.

22. Please indicate whether CSWR LLC has sought similar acquisition adjustments in other jurisdictions. If so, provide the associated outcomes (e.g. acquisition adjustment approved in full, partial approval of the acquisition adjustment, or denial of the acquisition adjustment). Please provide the jurisdiction(s) and relevant order number(s).

Response: Yes, it has. Tennessee Rule 1220-04-14-.04 explicitly allows for the Commission to consider remediation of public health, safety, and welfare concerns when contemplating acquisition incentives. 16 Texas Administrative Code ("TAC") § 24.41(d) ensure acquisition adjustments are tied to arm's length transactions, improvements in service quality, and clear customer benefits. Partial acquisition adjustments were granted in Docket 24-00044.

Arizona Corporation Commission Decision No. 75626 (July 26, 2016) in Docket No. W-00000C-16-0151 ("Water Policy Order"). In its Water Policy Order, the Commission adopted a series of "Policy Statements for the Water and Wastewater Industries" in Arizona. In adopting the policies, the Commission recognized and explained that the "private water utility industry in Arizona is highly fragmented and problematic." The Commission further explained that "encouraging consolidation will have direct and tangible benefits for small water utility customers." Differences between Purchase Price and Net Book Value, identified as "deferred debits" in AZ, were granted in Order Number 81549.

Kentucky Rule KRS 278.295(2) codified the "Delta Test" which outlines the criteria a commission uses to determine the value of an acquired water or sewer asset for ratemaking. The commission sets the asset's value between its original cost and its acquisition price, regardless of how it was originally funded, if the acquiring utility demonstrates that the price was negotiated fairly, restoring the asset won't negatively affect overall costs or customer rates, the acquisition leads to operational efficiencies; purchase prices are clearly distinguished, and there are financial and service benefits from the acquisition. In Docket 2022-00432, the Commission granted approval of requested acquisition adjustments for 10 of the 12 systems found in its request.

TX 16 TAC § 24.41(d)(1) and (2) detail the recovery of positive acquisition adjustment. Specifically, the rule permits recovery when certain conditions are met, such as reasonable investments being made to comply with regulations, and the transaction benefiting customers or improving stability. The adjustment is only allowed if the buyer and seller are not affiliated, all related transactions are disclosed and conducted at arm's length, and the purchase price and impact on rates are reasonable. In the Final Order to Docket 54565, the Commission noted "The net positive acquisition adjustments for the systems CSWR-Texas acquired outside of the FMV process are reasonable and should be included in rate base."

Mississippi Commission Rule 8.102 governs rate adjustments related to the approval of a sale and transfer of public utility property. Commission Rule 8.102 states "Unless specifically requested in the petition and clearly allowed by the Commission's order, the approval of any sale or transfer by the Commission shall not, in and of itself, provide a basis or justification for any subsequent adjustment to rate base or operating expenses. An acquisition adjustment shall not be implied or allowed except upon written request for same in the Petition for Sale and Transfer and only where expressly allowed by order of the Commission when it grants approval for the sale and transfer. If an acquisition adjustment is sought, all supporting documentation and legal authority must be attached to the Petition presented pursuant to this rule. Adjustments, if allowed, shall be by Order of the Commission." Most recently, acquisition adjustments were granted to Great River in Docket Nos. 2020-UA-143, 2020-UA-144, 2021-UA-157, 2021-UA-158, 2022UA-37, 2022-UA-38, 2022-UA-144, 2022-UA-145, 2023-UA-35, and 2023-UA-36.

Overwhelmingly, various states are adopting rules that incentivize both the acquisition and, more importantly, the rehabilitation of small, distressed systems. In each of these states, recovery of acquisition adjustments (deferred debits) isn't just permitted — it's a deliberate tool to promote public health, infrastructure investment, and long-term service stability.

23. Assuming CSWR-FL's request to consolidate rates is not approved:

a. Please describe how the Utility would implement the resulting rate increases, including any measures proposed to mitigate customer bill impacts.

Response: CSWR-Florida has proposed consolidation in Docket 20250052 and will implement any rate increase or rate design as Ordered by the Florida PSC.

b. Please indicate whether the Utility would seek to phase-in rates.

Response: No. While CSWR has implemented phase in rates in other jurisdictions, these phase ins include carrying costs which would increase the rates in the long term.

24. Please provide any due diligence reports conducted by CSWR-Florida (or parent) associated with the acquisition.

Response: Please see the attachment "DR 24 – Rolling Oaks Engineering Memo."

25. Please provide all materials related to sensitivity analyses or stress tests on acquisition pricing, if any, that CSWR-Florida or any party retained to assist in acquisition pricing conducted.

Response: None.

26. With respect to the acquisition adjustment in this case, please provide copies, if any, of:

a. Internal memos, board presentations, and management analyses supporting the adjustment.

Response: None.

b. Any codified internal policies regarding acquiring utilities and seeking acquisition adjustments.

Response: None.

c. Documented communications with investors or credit rating agencies regarding any acquisition-related impacts.

Response: None.

27. Please submit all internal emails, management meeting notes, and board presentations that mention concerns or debates over the acquisition price or expected regulatory treatment of the premium.

Response: As noted in item 3 above, there were not internal or external concerns over the excess of the purchase price over net book value. There was no "expected regulatory treatment."

28. With respect to the acquisition adjustment in this case, please provide unredacted versions (if any) of:

    a. Valuation reports related to the acquired utility.

    Response: Please refer to the response provided in Data Request 5.

    b. Copies of any internal rate impact modeling conducted by CSWR-Florida with respect to the acquired utility.

    Response: Please refer to the response provided in Data Request 15.

29. Please submit any documented communications between Utility executives/Utility staff and the acquired utility regarding acquisition premium justification.

    Response: None.

Thank you for the opportunity to provide additional information in support of the application. Please feel free to contact our office at your convenience with any additional questions or concerns.

Sincerely,

/s/ Thomas A. Crabb

Thomas A. Crabb
Attorney for CSWR-Florida

cc: Aaron Silas
Walt Trierweiler, Esq.
Austin Watrous, Esq.
Daniel Dose, Esq.
Jennifer Crawford, Esq.
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discovery-gcl@psc.state.fl.us

Data Request # 5
Valuation

Flinn Engineering, LLC
11216 Neumann Lane
Highland, Illinois 62249
618-550-8427
ksimpson@flinnengineering.com

August 23, 2022

Aaron Silas
Regulatory Case Manager
Central States Water Resources
1650 Des Peres Rd., Suite 303
St. Louis, MO 63131

Re: Asset Report
Rolling Oaks Utilities, Inc. – Water and Wastewater Systems

Dear Mr. Silas:

Flinn Engineering, LLC is pleased to present the following information regarding the water and wastewater systems owned by Rolling Oaks Utilities, Inc. for the Laurel Ridge Subdivision and the Beverly Hills Subdivision in Citrus County, Florida. The purpose of this report is to provide an inventory of assets, estimate the original installation cost of the assets at the time the systems were placed in service, and estimate the depreciated value of the assets.

The original installation costs were not recorded by the developer. In order to establish the original cost, we estimated the cost to install the assets in 2022 dollars using a combination of an engineering opinion based on knowledge of other systems of similar size and correspondence from contractors and suppliers. The Handy-Whitman Index was used to adjust the estimated installation cost to the date the assets were placed in service. The original installation date is based on a variety of assumptions and available information that are described below.

A site visit was not conducted since this report is not evaluating the condition of the system. The following describes the information available, assumptions made, and methodology used to determine the installed value of the assets.

Property values are not included in this estimate of asset value. Property values could include the well sites, tank sites, wastewater treatment plant site, percolation ponds site, lift station sites, and easements for the water distribution system and easements for the sewer collection system.

Summary

The Rolling Oaks service area includes water and sewer customers. The water customers are supplied by nine (9) wells and two (2) elevated tanks. The sewer customers are served by the wastewater treatment plant and 14 lift stations. **Table 1** summarizes the estimated installation cost in 2022 dollars, the estimated original installation cost, and the estimated depreciated value.

Table 1 – Water and Wastewater Systems Estimated Installation Cost and Depreciated Value

Description	Estimated Installation Cost 2022	Estimated Original Installation Cost	Estimated Depreciated Value
Water System	$ 34,054,200.00	$ 7,249,192.65	$ 864,915.26
Wastewater System	$ 25,909,000.00	$ 5,491,852.00	$ 1,022,237.96
Total	$ 59,963,200.00	$ 12,741,044.65	$ 1,887,153.22

Available Information/Assumption

The following information/assumptions were used to determine the quantity, age, and estimated installation cost for the assets. The numbers are shown in the tables in **Appendices B & C** for easy reference. The items listed under "Available Information" are included in **Appendix A,** unless otherwise noted.

Available Information

1. Water Facility Report and Wastewater Facility Report prepared by Clearpoint Consulting Engineers, P.A. dated March 2022 (Facility Report). These reports are not attached due to the file size.
2. Rough Service Area Map prepared by 21 Design dated June 15, 2022. The map is not attached due to file size.
3. Water and Wastewater System Maps prepared by Jones, Edmunds & Associates, Inc. dated 2004.
4. Google Earth image showing assumed areas of phased construction. The asset locations are based on the Rough Service Area Map (Item 2 above).
5. USEPA Technology Fact Sheet – Package Plants dated September 2000

Assumptions

6. The Facility Report for Water (Item 1 in **Appendix A**) includes a date of installation for each well. We assumed an area of development associated with each well installation (Item 4 in **Appendix A**) based on the System Maps (Item 3 in **Appendix A**) and the year homes were built (available on Zillow.com). We assumed all assets in each area were built at the same time.
7. The Facility Report for Water (Item 1 in **Appendix A**) indicates that the well buildings are constructed with Concrete Masonry Units (CMU). The approximate size of the buildings was measured using Google Earth. The estimated cost of $60 per square foot is based on discussions with contractors.
8. The water main and sewer collection systems were drawn and measured in Google Earth based on the System Maps (Item 3 in **Appendix A**). They were drawn and measured within each assumed area of phased construction (Item 4 in **Appendix A**) to determine the length by year. The Water System map shows sizes of water main. The Wastewater System map does not include sizes. We assumed the forcemain is 4-inch and the gravity main is 8-inch.
9. The total number of fire hydrants and water services are included in the Facility Report for Water (Item 1 in **Appendix A**). The number by year is prorated based on the percent of water main built each year. The calculation is shown in **Table 3**.
10. The number of manholes by assumed area of phased construction (Item 4 in **Appendix A**) was counted on the System Map (Item 3 in **Appendix A**). The total number of services is included in the Facility Report for Wastewater (Item 1 in **Appendix A**). The number of services by year is prorated based on the percent of sewer built each year. The calculation is shown in **Table 5**.

11. Based on discussions with well drillers, we assumed the per foot cost for each well based on depth, casing size, and pump size. This estimate includes well drilling, well pump, electrical and plumbing.
12. The estimated cost for the chlorination equipment is based on recent projects of similar size.
13. The generator cost assumes the genset includes all accessories and controls and the installation cost would be half of the material cost. The genset cost is estimated from online catalogs (Cummins) using kW rating.
14. The estimated cost of each elevated tank is based $1.50 per gallon with the ancillary items being a percent or lump sum as shown below.

Description of Work	North Tank (300,000 gallons)	South Tank (300,000 gallons)
Tank ($1.50 per gallon)	$ 450,000.00	$ 450,000.00
Foundation (10% of Tank)	$ 45,000.00	$ 45,000.00
Site Piping (5% of Tank)	$ 22,500.00	$ 22,500.00
Site Work (Lump sum $5,000)	$ 5,000.00	$ 5,000.00
Subtotal	$ 522,500.00	$ 522,500.00
Engineering (10% of Subtotal)	$ 52,250.00	$ 52,250.00
Total	**$ 574,750.00**	**$ 574,750.00**

15. The per foot cost shown in **Table 2** is based on the water main being installed approximately three (3) feet deep. The per foot estimate for water main installation includes design, excavation, material, installation, backfill, and restoration.
16. The water service and meter installation cost shown in **Table 2** is based on recent conversations with contractors. This is an estimate of the average cost of “long” services and “short” services and includes excavation, boring, material, installation, backfill, and restoration.
17. The fire hydrant installation cost shown in **Table 2** is based on recent conversations with contractors. This includes excavation, material, installation, backfill, and restoration.
18. The USEPA published a Technology Fact Sheet on Package Plants in September 2000 (Item 5 in **Appendix A**). The Fact Sheet estimates the capital costs for this type of WWTP to range from $2 to $2.5 per treated gallon. We assumed the WWTP would be in the high end of the cost range. The 2000 (H-W 351) per gallon cost was converted to 2022 (H-W 781). The estimated 2022 cost for the installation of the extended aeration plant is $5.60 per gallon treated.
19. The sewer is assumed to be 4-inch forcemain and 8-inch gravity sewer. We assumed the gravity sewer is approximately six (6) to eight (8) feet deep and the forcemain is approximately three (3) feet deep. The per foot estimate shown in **Table 4** includes design, excavation, material, installation, backfill, and restoration.
20. The lift station cost is based on the size of the pumps and online catalogs (USA Bluebook). We assumed the installation cost to be about twice the pump cost.
21. The manhole installation cost shown in **Table 4** is based on recent conversations with contractors. This includes excavation, material, installation, backfill, and restoration.
22. The sewer lateral installation cost shown in **Table 4** is based on 4-inch PVC and recent conversations with contractors. This estimate includes excavation, material, installation, backfill, and restoration.

<u>Water System</u>

Based on the information available and the assumptions listed above, the water system includes nine (9) wells with disinfection; two (2) wells include an emergency generator; two (2) 300,000-

gallon elevated tanks; approximately 77 miles of water main; 262 hydrants; and 6,000 water services. **Table 2** includes inventory of distribution system water assets and the estimated installation cost in 2022.

Table 2 – Inventory of Water Distribution Assets and Estimated Installation Cost in 2022

Asset Description	Quantity	Unit	Estimated Unit Cost 2022	2022 Estimated Installation Cost
< 4-inch Water Main	229,740	feet	$ 35.00	$ 8,040,900
4 & 6-inch Water Main	94,150	feet	$ 55.00	$ 5,178,250
8-inch Water Main	31,820	feet	$ 60.00	$ 1,909,200
10 & 12-inch Water Main	47,365	feet	$ 75.00	$ 3,552,375
16-inch Water Main	1,190	feet	$ 90.00	$ 107,100
Fire Hydrants	262	each	$4,500.00	$ 1,179,000
Services and Meters	6,000	each	$2,000.00	$ 12,000,000
			Total	$ 31,966,825

Table 3 includes the inventory of distribution system water assets by year. Refer to assumptions 8 and 9 for allocation by year.

Table 3 – Inventory of Water Distribution Assets by Year

	1961	1969	1975	1981	1987	Total
< 4-inch Water Main	47,210	38,200	30,290	79,930	34,110	229,740
4 & 6-inch Water Main	16,710	2,690	5,520	10,350	58,880	94,150
8-inch Water Main		8,460	9,230	12,550	1,580	31,820
10 & 12-inch Water Main	4,295	2,880	3,380	13,120	23,690	47,365
16-inch Water Main	-				1,190	1,190
Total (feet)	68,215	52,230	48,420	115,950	119,450	404,265 feet
						76.6 miles
% Main By Year	17%	13%	12%	29%	30%	100%
# Fire Hydrants By Year	44	34	31	75	78	262
# Services/Meters By Year	1012	775	719	1721	1773	6000

Appendix B includes a table showing the asset description, quantity, information/assumption to determine quantity, date of installation, information/assumption to determine date of installation, unit cost, information/assumption used to determine unit cost, the estimated cost to install the water assets in 2022, and the calculation using the Handy-Whitman indices to convert the estimated installation cost in 2022 to the estimated original installation cost.

Wastewater System

Based on the information available and the assumptions listed above, the wastewater system includes the extended aeration wastewater treatment plant; 14 lift stations; approximately 53 miles of sewer collection; 853 manholes; and 4,710 service laterals. **Table 4** includes inventory of sewer collection wastewater assets and the estimated installation cost in 2022.

Table 4 – Inventory of Sewer Collection Assets and Estimated Installation Cost in 2022

Asset Description	Quantity	Unit	Estimated Unit Cost 2022	2022 Estimated Installation Cost
4-inch Forcemain	26,080	feet	$ 55.00	$ 1,434,400
8-inch Gravity	252,560	feet	$ 60.00	$ 15,153,600
Manholes	853	each	$ 4,000.00	$ 3,412,000
Service Laterals	4,710	each	$ 400.00	$ 1,884,000
			Total	$ 21,884,000

Table 5 includes the inventory of distribution system water assets by year. Refer to assumptions 8 and 10 for allocation by year.

Table 5 - Inventory of Sewer Collection Assets by Year

	1970	1975	1981	1987	Total
4-inch Forcemain	2,600	2,980	14,430	6,070	26,080
8-inch Gravity	39,120	38,840	80,200	94,400	252,560
Total (feet)	41,720	41,820	94,630	100,470	278,640 feet 52.8 miles
% Sewer By Year	15%	15%	34%	36%	100%
# Manholes By Year	142	140	257	314	853
# Service Laterals By Year	705	707	1600	1698	4710

Appendix C includes a table showing the asset description, quantity, information/assumption to determine quantity, date of installation, information/assumption to determine date of installation, unit cost, information/assumption used to determine unit cost, the estimated cost to install the water assets in 2022, and the calculation using the Handy-Whitman indices to convert the estimated installation cost in 2022 to the estimated original installation cost.

Depreciated Value

The estimated original cost was depreciated based on depreciation rates used in the Rolling Oaks Utilities Full Rate Case Application dated September 28, 2020 (Rate Case) and the Missouri Public Service Commission (PSC) during rate cases. The rates used in the Rate Case are included in **Appendix D**. Assets that are not included in the depreciation periods in the Rate Case are depreciated based on periods approved by the Missouri PSC. It is reasonable to assume the depreciation rates approved by the Missouri PSC are typical of other states. The depreciation schedules from six (6) Missouri rate cases are included in **Appendix D**. Three (3) are from water systems and three (3) are from wastewater systems. The depreciation periods used are summarized in **Table 6**. The depreciation calculation is included in **Appendix E**.

Table 6 – Depreciation Periods

Asset	Depreciation Period (years)
Well	30
Generator	35
Well Pump	20
Well House	40
Water Treatment Equipment	35[1]
Tanks	35
Water Main	50[1]
Services and Meters	20
Hydrants	45
WWTP - Equipment	18
Sanitary Sewer and Manholes	50[1]
Lift Station	18
Service Laterals	38

Note 1 - Assets that are not listed with depreciation periods approved in Florida are using the depreciation periods approved by the Missouri PSC

We appreciate the opportunity to assist you on this project. If you have any questions, please let me know.

Sincerely,

Kelly A. Simpson

Kelly A. Simpson, PE, LEED® AP
Owner

Enclosures:
Appendix A – Available Information
Appendix B – Water Assets Estimated 2022 Cost and Estimated Original Cost
Appendix C – Wastewater Assets Estimated 2022 Cost and Estimated Original Cost
Appendix D – Depreciation Rate Schedules
Appendix E – Depreciation Calculation

18455-006-01

GRAPHIC SCALE

0 400 800 1600

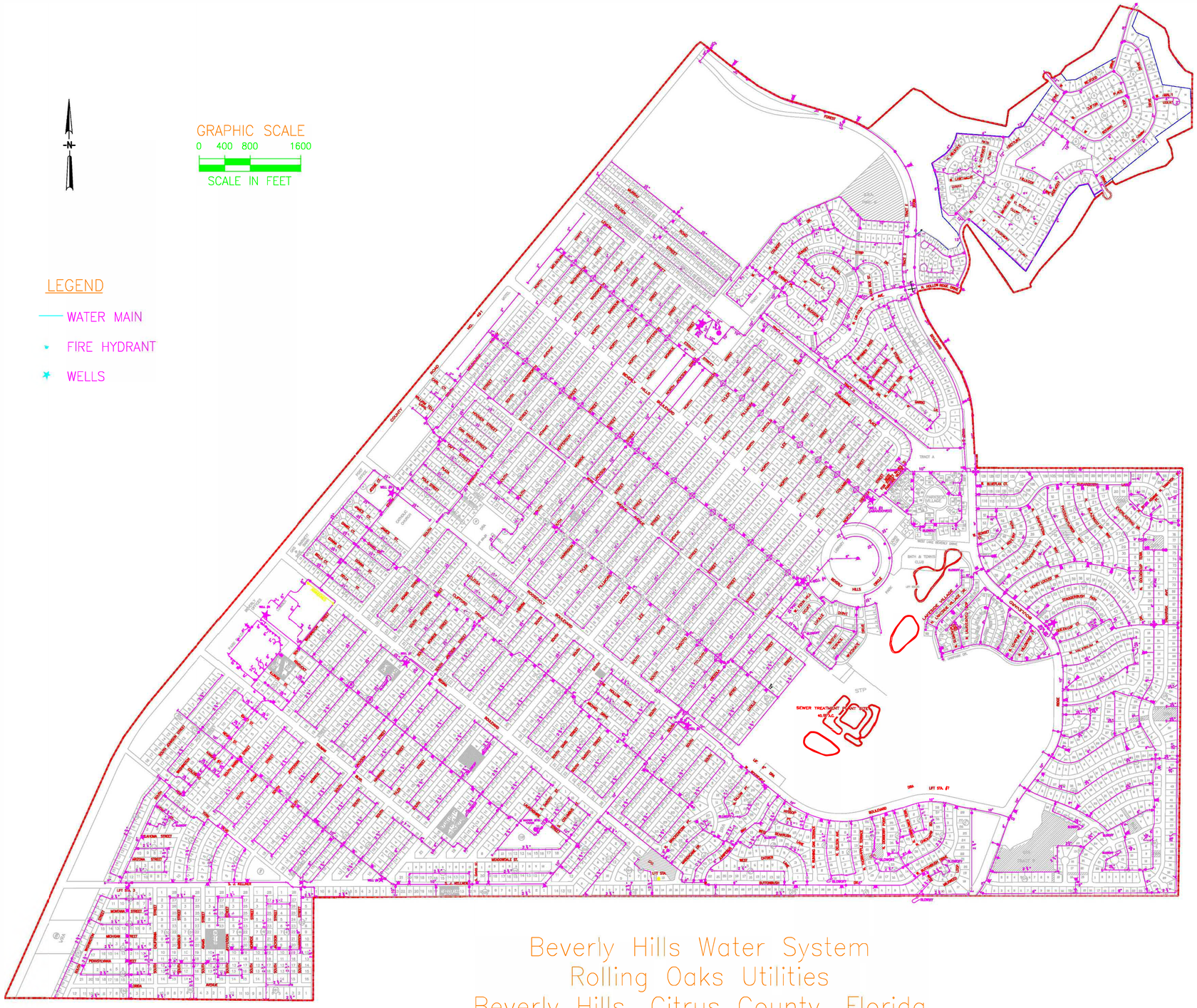
SCALE IN FEET

LEGEND

WATER MAIN

FIRE HYDRANT

WELLS



Beverly Hills Water System
Rolling Oaks Utilities
Beverly Hills, Citrus County, Florida

Jones Edmunds & Associates, Inc. JEA

Workpaper: ROU_W-12 and ROU_WW-12 - Map of Water Distribution & Wastewater Collection Systems

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Workpaper: ROU_W-12 and ROU_WW-12 - Map of Water Distribution & Wastewater Collection Systems

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GRAPHIC SCALE
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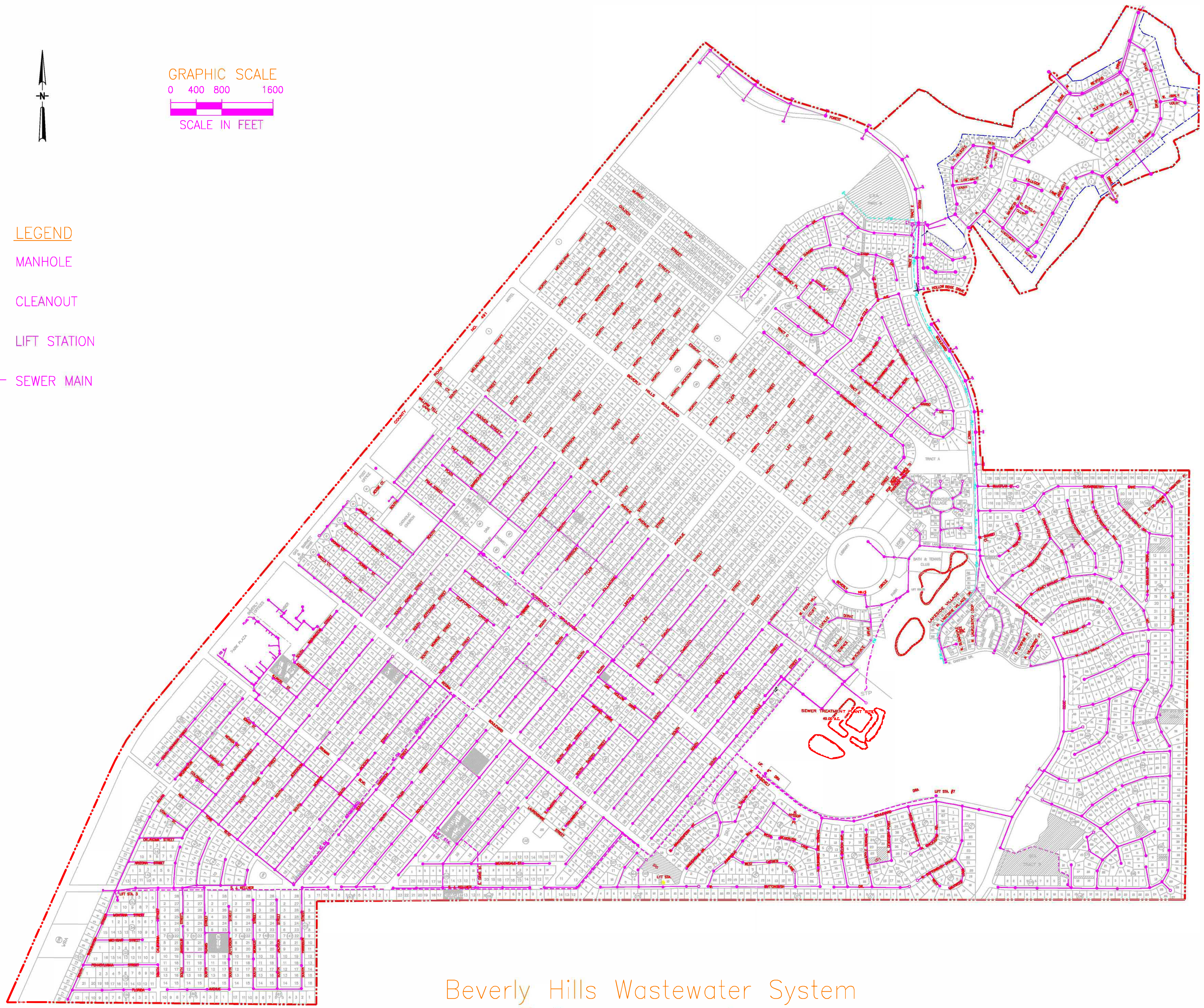
SCALE IN FEET

LEGEND

- MANHOLE
- CLEANOUT
- LIFT STATION
- SEWER MAIN



Beverly Hills Wastewater System
Rolling Oaks Utilities
Beverly Hills, Citrus County, Florida

Jones Edmunds & Associates, Inc. JEA

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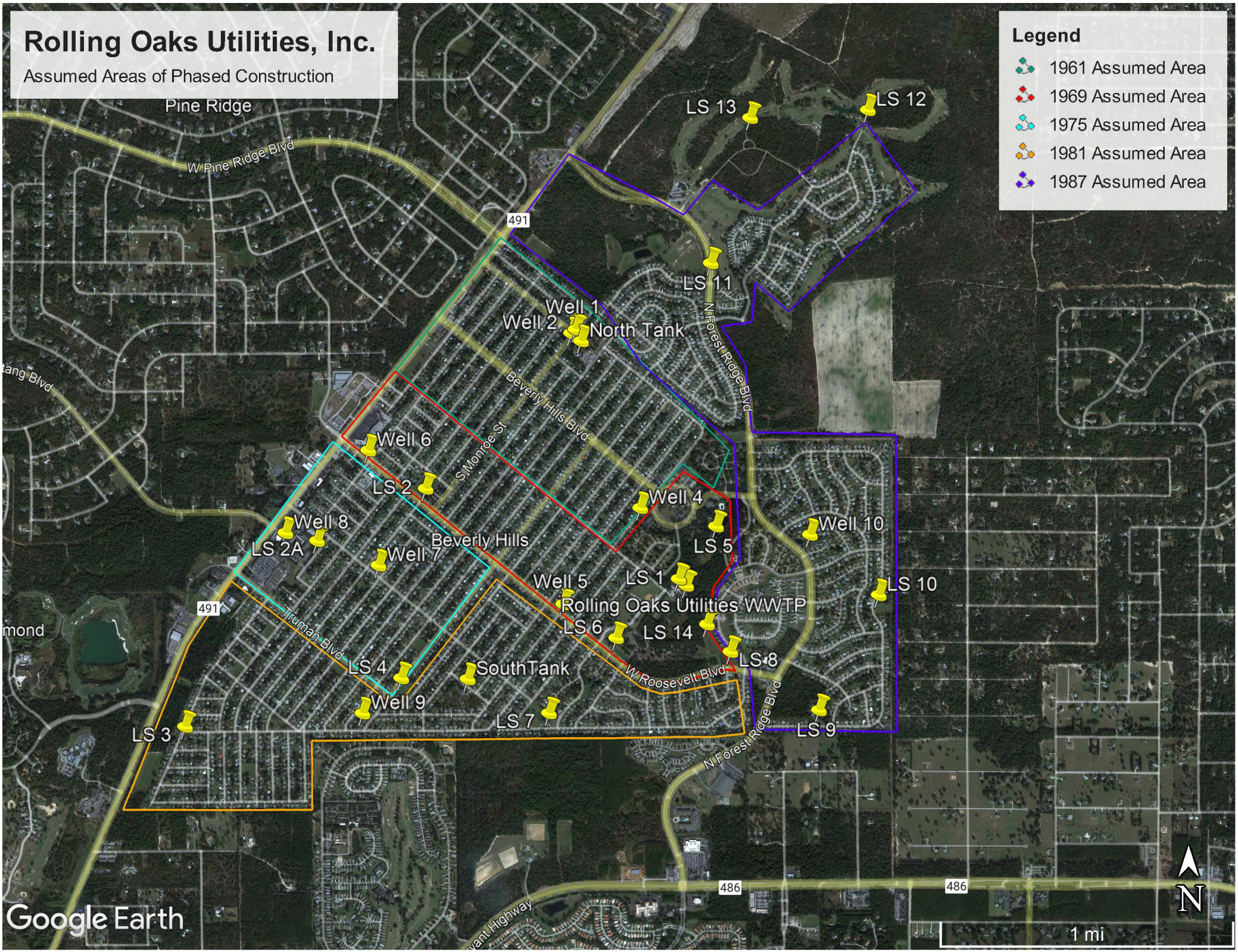
Rolling Oaks Utilities, Inc.
Assumed Areas of Phased Construction
Legend
1961 Assumed Area
1969 Assumed Area
1975 Assumed Area
1981 Assumed Area
1987 Assumed Area
Pine Ridge
W Pine Ridge Blvd
491
LS 13
LS 12
LS 11
Well 1
Well 2
North Tank
N Forest Ridge Blvd
Beverly Hills Blvd
S Monroe St
Well 6
LS 2
Well 4
Well 8
LS 2A
Beverly Hills
Well 7
LS 5
Well 10
Well 5
LS 1
LS 10
Rolling Oaks Utilities WWTP
LS 6
LS 14
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Truman Blvd
LS 4
SouthTank
W Roosevelt Blvd
Well 9
LS 7
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United States Environmental Protection Agency | Office of Water Washington, D.C. | EPA 832-F-00-016 September 2000

Wastewater Technology Fact Sheet
Package Plants

DESCRIPTION

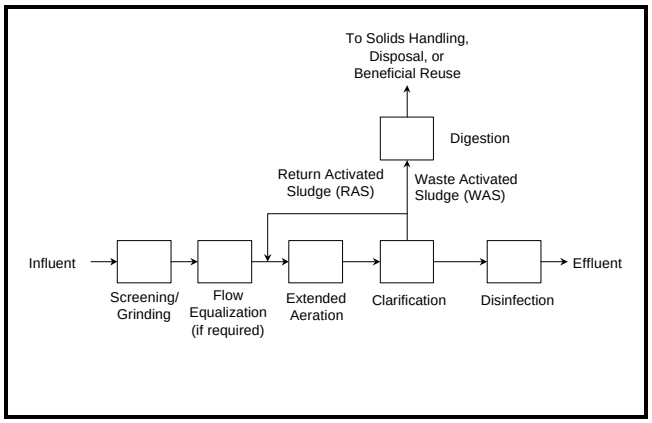
Package plants are pre-manufactured treatment facilities used to treat wastewater in small communities or on individual properties. According to manufacturers, package plants can be designed to treat flows as low as 0.002 MGD or as high as 0.5 MGD, although they more commonly treat flows between 0.01 and 0.25 MGD (Metcalf and Eddy, 1991).

The most common types of package plants are extended aeration plants, sequencing batch reactors, oxidation ditches, contact stabilization plants, rotating biological contactors, and physical/chemical processes (Metcalf and Eddy, 1991). This fact sheet focuses on the first three, all of which are biological aeration processes.

Extended aeration plants

The extended aeration process is one modification of the activated sludge process which provides biological treatment for the removal of biodegradable organic wastes under aerobic conditions. Air may be supplied by mechanical or diffused aeration to provide the oxygen required to sustain the aerobic biological process. Mixing must be provided by aeration or mechanical means to maintain the microbial organisms in contact with the dissolved organics. In addition, the pH must be controlled to optimize the biological process and essential nutrients must be present to facilitate biological growth and the continuation of biological degradation.

As depicted in Figure 1, wastewater enters the treatment system and is typically screened immediately to remove large suspended, settleable, or floating solids that could interfere with or damage equipment downstream in the process. Wastewater may then pass through a grinder to reduce large particles that are not captured in the screening process. If the plant requires the flow to be regulated, the effluent will then flow into equalization basins which regulate peak wastewater flow rates. Wastewater then enters the aeration chamber, where it is mixed and oxygen is provided to the microorganisms. The mixed liquor then flows to a clarifier or settling chamber where most microorganisms settle to the bottom of the clarifier and a portion are pumped back to the incoming wastewater at the beginning of the plant. This returned material is the return activated sludge (RAS). The material that is not returned, the waste activated sludge (WAS), is removed for treatment and disposal. The clarified wastewater then flows over a weir and into a collection channel before being diverted to the disinfection system.



Source: Parsons Engineering Science, 2000.

FIGURE 1 PROCESS FLOW DIAGRAM FOR A TYPICAL EXTENDED AERATION PLANT

Extended aeration package plants consist of a steel tank that is compartmentalized into flow equalization, aeration, clarification, disinfection, and aerated sludge holding/digestion segments. Extended aeration systems are typically manufactured to treat wastewater flow rates between 0.002 to 0.1 MGD. Use of concrete tanks may be preferable for larger sizes (Sloan, 1999).

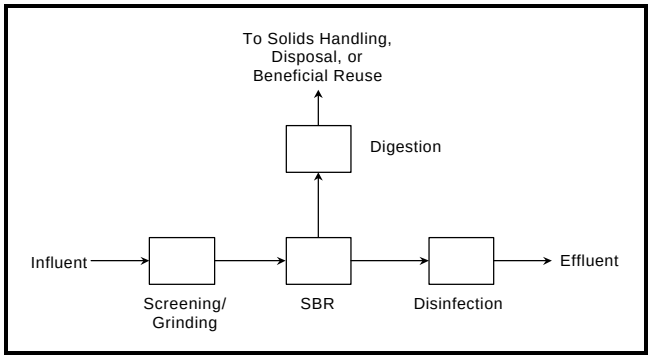
Extended aeration plants are usually started up using "seed sludge" from another sewage plant. It may take as many as two to four weeks from the time it is seeded for the plant to stabilize (Sloan, 1999).

Sequencing batch reactors

A sequencing batch reactor (SBR) is a variation of the activated sludge process. As a fill and draw or batch process, all biological treatment phases occur in a single tank. This differs from the conventional flow through activated sludge process in that SBRs do not require separate tanks for aeration and sedimentation (Kappe, 1999). SBR systems contain either two or more reactor tanks that are operated in parallel, or one equalization tank and one reactor tank. The type of tank used depends on the wastewater flow characteristics (e.g. high or low volume). While this setup allows the system to accommodate continuous influent flow, it does not provide for disinfection or holding for aerated sludge.

There are many types of SBR systems, including continuous influent/time based, non-continuous influent/time based, volume based, an intermittent cycle system (a SBR that utilizes jet aeration), and various other system modifications based on different manufacturer designs. The type of SBR system used depends on site and wastewater characteristics as well as the needs of the area or community installing the unit. Package SBRs are typically manufactured to treat wastewater flow rates between 0.01 and 0.2 MGD; although flow rates can vary based on the system and manufacturer.

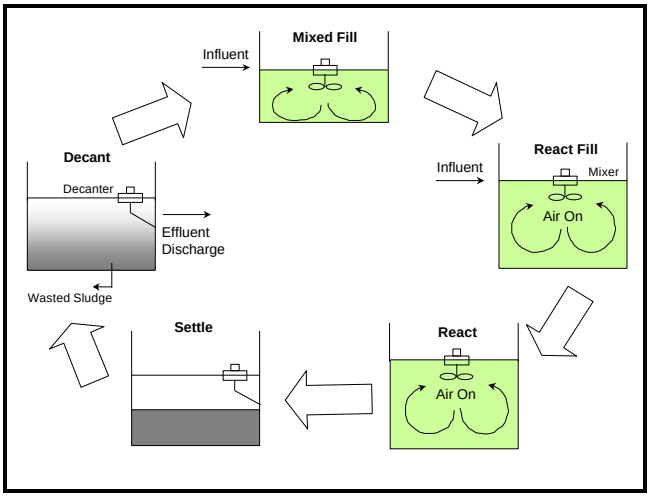
As seen in Figure 2, the influent flow first goes through a screening process before entering the SBR. The waste is then treated in a series of batch phases within the SBR to achieve the desired effluent concentration. The sludge that is wasted from the SBR moves on to digestion and eventually to solids handling, disposal, or beneficial reuse. The treated effluent then moves to disinfection. An equalization tank is typically needed before the disinfection unit in batch SBRs in order to store large volumes of water. If the flow is not equalized, a sizable filter may be necessary to accommodate the large flow of water entering the disinfection system. In addition, SBR systems typically have no primary or secondary clarifiers as settling takes place in the SBR.



Source: Parsons Engineering Science, 2000.

FIGURE 2 PROCESS FLOW DIAGRAM FOR A TYPICAL SBR

There are normally five phases in the SBR treatment cycle: fill, react, settle, decant, and idle. The length of time that each phase occurs is controlled by a programmable logic controller (PLC), which allows the system to be controlled from remote locations (Sloan, 1999). In the fill phase, raw wastewater enters the basin, where it is mixed with settled biomass from the previous cycle. Some aeration may occur during this phase. Then, in the react phase, the basin is aerated, allowing oxidation and nitrification to occur. During the settling phase, aeration and mixing are suspended and the solids are allowed to settle. The treated wastewater is then discharged from the basin in the decant phase. In the final phase, the basin is idle as it waits for the start of the next cycle. During this time, part of the solids are removed from the basin and disposed of as waste sludge (Kappe, 1999). Figure 3 shows this sequence of operation in an SBR.



Source: CASS Water Engineering, Inc., 2000.

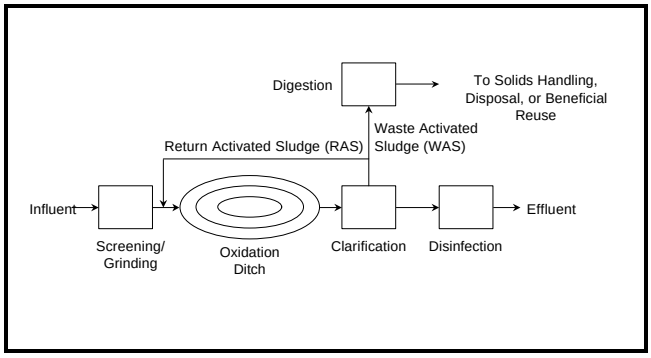
FIGURE 3 SBR SEQUENCE OF OPERATION

Sludge wasting is an important step in the SBR process and largely affects system performance. It is not considered a basic phase since the sludge is not wasted at a specific time period during the cycle. The quantity and rate of wasting is determined by performance requirements. An SBR system does not require an RAS system, as both aeration and settling occur in the same tank. This prevents any sludge from being lost during the react step and eliminates the need to return sludge from the clarifier to the aeration chamber (Metcalf and Eddy, 1991).

Oxidation ditches

An oxidation ditch, a modified form of the activated sludge process, is an aerated, long term, complete mix process. Many systems are designed to operate as extended aeration systems. Typical oxidation ditch treatment systems consist of a single or multi-channel configuration within a ring, oval, or horseshoe-shaped basin. Horizontally or vertically mounted aerators provide aeration, circulation, and oxygen transfer in the ditch.

Package oxidation ditches are typically manufactured in sizes that treat wastewater flow rates between 0.01 and 0.5 MGD. As seen in Figure 4, raw wastewater is first screened before entering the oxidation ditch. Depending on the system size and manufacturer type, a grit chamber may be required. Once inside the ditch, the wastewater is aerated with mechanical surface or submersible aerators (depending on manufacturer design) that propel the mixed liquor around the channel at velocities high enough to prevent solids deposition. The aerator ensures that there is sufficient oxygen in the fluid for the microbes and adequate mixing to ensure constant contact between the organisms and the food supply (Lakeside, 1999).



Source: Parsons Engineering Science, 1999.

FIGURE 4 PROCESS FLOW DIAGRAM FOR A TYPICAL OXIDATION DITCH

Oxidation ditches tend to operate in an extended aeration mode consisting of long hydraulic and solids retention times which allow more organic matter to break down. Treated sewage moves to the settling tank or final clarifier, where the biosolids and water separate. Wastewater then moves to other treatment processes while sludge is removed. Part of it is returned to the ditch as RAS, while the rest is removed from the process as the waste activated sludge (WAS). WAS is wasted either continuously or daily and must be stabilized prior to disposal or beneficial reuse.

APPLICABILITY

In general, package treatment plants are applicable for areas with a limited number of people and small wastewater flows. They are most often used in remote locations such as trailer parks, highway rest areas, and rural areas.

Extended aeration plants

Extended aeration package plants are typically used in small municipalities, suburban subdivisions, apartment complexes, highway rest areas, trailer

parks, small institutions, and other sites where flow rates are below 0.1 MGD. These systems are also useful for areas requiring nitrification.

Sequencing batch reactors

Package plant SBRs are suitable for areas with little land, stringent treatment requirements, and small wastewater flows. More specifically, SBRs are appropriate for RV parks or mobile homes, campgrounds, construction sites, rural schools, hotels, and other small applications. These systems are also useful for treating pharmaceutical, brewery, dairy, pulp and paper, and chemical wastes. While constant cycles with time-fixed process phases are sufficient in most cases, phases should be individually adapted and optimized for each plant. SBRs are also suited for sites that need minimal operator attendance and that have a wide range of inflow and/or organic loadings.

Industries with high BOD loadings, such as chemical or food processing plants, will find SBRs useful for treating wastewater. These systems are also suitable for facilities requiring nitrification, denitrification, and phosphorous removal. Most significantly, SBRs are applicable for areas where effluent requirements can change frequently and become stricter, as these systems have tremendous flexibility to change treatment options. However, part of the economic advantage of the SBR process is lost when advanced treatment processes must be added downstream since intermediate equalization is normally required.

Oxidation ditches

Oxidation ditches are suitable for facilities that require nutrient removal, have limitations due to the nature of the site, or want a biological system that saves energy with limited use of chemicals unless required for further treatment. Oxidation ditch technology can be used to treat any type of wastewater that is responsive to aerobic degradation. In addition, systems can be designed for denitrification and phosphorous removal.

Types of industries utilizing oxidation ditches include: food processing, meat and poultry packing, breweries, pharmaceutical, milk processing, petrochemical, and numerous other types. Oxidation ditches are particularly useful for schools, small industries, housing developments, and small communities. Ultimately, this technology is most applicable for places that have a large amount of land available.

ADVANTAGES AND DISADVANTAGES

Some advantages and disadvantages of package plants are listed below.

Extended aeration plants

Advantages

- Plants are easy to operate, as many are manned for a maximum of two or three hours per day.
- Extended aeration processes are often better at handling organic loading and flow fluctuations, as there is a greater detention time for the nutrients to be assimilated by microbes.
- Systems are easy to install, as they are shipped in one or two pieces and then mounted on an onsite concrete pad, above or below grade.
- Systems are odor free, can be installed in most locations, have a relatively small footprint, and can be landscaped to match the surrounding area.
- Extended aeration systems have a relatively low sludge yield due to long sludge ages, can be designed to provide nitrification, and do not require a primary clarifier.

Disadvantages

- Extended aeration plants do not achieve denitrification or phosphorus removal without additional unit processes.
- Flexibility is limited to adapt to changing effluent requirements resulting from regulatory changes.
- A longer aeration period requires more energy.

- Systems require a larger amount of space and tankage than other "higher rate" processes, which have shorter aeration detention times.

Sequencing batch reactors

Advantages

- SBRs can consistently perform nitrification as well as denitrification and phosphorous removal.
- SBRs have large operational flexibility.
- The ability to control substrate tension within the system allows for optimization of treatment efficiency and control over nitrogen removal, filamentous organisms, and the overall stability of the process.
- Since all the unit processes are operated in a single tank, there is no need to optimize aeration and decanting to comply with power requirements and lower decant discharge rates.
- Sludge bulking is not a problem.
- Significant reductions in nitrate nitrogen can occur by incorporating an anoxic cycle in the system.
- SBRs have little operation and maintenance problems.
- Systems require less space than extended aeration plants of equal capacity.
- SBRs can be manned part time from remote locations, and operational changes can be made easily.
- The system allows for automatic and positive control of mixed liquor suspended solids (MLSS) concentration and solids retention time (SRT) through the use of sludge wasting.

Disadvantages

- It is hard to adjust the cycle times for small communities.
- Post equalization may be required where more treatment is needed.
- Sludge must be disposed frequently.
- Specific energy consumption is high.

Oxidation ditches

Advantages

- Systems are well-suited for treating typical domestic waste, have moderate energy requirements, and work effectively under most types of weather.
- Oxidation ditches provide an inexpensive wastewater treatment option with both low operation and maintenance costs and operational needs.
- Systems can be used with or without clarifiers, which affects flexibility and cost.
- Systems consistently provide high quality effluent in terms of TSS, BOD, and ammonia levels.
- Oxidation ditches have a relatively low sludge yield, require a moderate amount of operator skill, and are capable of handling shock and hydraulic loadings.

Disadvantages

- Oxidation ditches can be noisy due to mixer/aeration equipment, and tend to produce odors when not operated correctly.
- Biological treatment is unable to treat highly toxic waste streams.
- Systems have a relatively large footprint.
- Systems have less flexibility should regulations for effluent requirements change.

DESIGN CRITERIA

Table 1 lists typical design parameters for extended aeration plants, SBRS, and oxidation ditches.

TABLE 1 TYPICAL DESIGN PARAMETERS FOR PACKAGE PLANTS

	Extended Aeration	SBR	Oxidation Ditch
BOD_5 loading (F:M) (lb BOD_5/ lb MLVSS)	0.05 - 0.15	0.05 - 0.30	0.05 - 0 30
Oxygen Required Avg. at 20EC (lb/lb BOD_5 applied)	2 - 3	2 - 3	2 - 3
Oxygen Required Peak at 20EC (value x avg. flow)	1.5 - 2.0	1.25 - 2.0	1.5 - 2.0
MLSS (mg/L)	3000 -6000	1500 -5000	3000 -6000
Detention Time (hours)	18 - 36	16 - 36	18 - 36
Volumetric Loading (lb BOD_5/d/ 10^3 cu ft)	10 - 25	5 - 15	5 - 30

Source: Adapted from Metcalf and Eddy, 1991 and WEF, 1998.

Extended aeration plants

Package extended aeration plants are typically constructed from steel or concrete. If the system is small enough, the entire system will arrive as one unit that is ready to be installed. If the system is larger, the clarifier, aeration chamber, and chlorine tank are delivered as separate units, which are then assembled on-site (WEF, 1985).

Key internal components of extended aeration treatment plants consist of the following: transfer pumps to move wastewater between the equalization and aeration zones; a bar screen and/or grinder to decrease the size of large solids; an aeration system consisting of blowers and diffusers for the equalization, aeration, and sludge holding zones; an airlift pump for returning sludge; a skimmer and effluent weir for the clarifier; and UV, liquid hypochlorite, or tablet modules used in the disinfection zone. Blowers and the control panel containing switches, lights, and motor starters are typically attached to either the top or one side of the package plant (Sloan, 1999).

Biological organisms within the system need sufficient contact time with the organic material in order to produce effluent of an acceptable quality. Typical contact time for extended aeration package plants is approximately 18-24 hours. The contact time, daily flow rate, influent parameters, and effluent parameters determine the size of the aeration tank where air is used to mix wastewater and to supply oxygen to promote biological growth. A package extended aeration system is sized based on the average volume of wastewater produced within a twenty-four hour period. Although provisions are made for some peaking factor, a flow equalization system may be necessary to prevent overloading of the system from inconsistent flow rates in the morning and evening. Equalization allows the wastewater to be delivered to the treatment plant at more manageable flow rates (WEF, 1985).

Systems should be installed at sites where wastewater collection is possible by gravity flow. In addition, the site should be stable, well drained, and not prone to flooding. The facility should be installed at least 30 meters (100 feet) from all residential areas and be in accordance with all health department regulations or zoning restrictions (WEF, 1985).

In order to ensure ease of operation and maintenance, extended aeration systems should be installed so that the tank walls extend nearly 0.15 meters (6 inches) above ground. This will supply insulation in the winter, prevent surface runoff from infiltrating the system, and allow the system to be serviced readily. If a plant is installed below ground, it must have distinct diversion ditching or extension walls in order to prevent surface water infiltration into the plant. When the plant is installed completely above ground, it may be

necessary to provide insulation for cold weather and walkways for easy maintenance (WEF, 1985).

Sequencing batch reactors

Important internal components include an aeration system, which typically consists of diffusers and a blower; a floating mixer; an effluent decanter; a pump for withdrawing sludge; and a sequence of liquid level floats. The PLC and the control panel are usually positioned within a nearby control building (Sloan, 1999).

When the wastewater flow rate at the site is less than 0.05 MGD, a single, prefabricated steel tank can be used. This tank is divided into one SBR basin, one aerobic sludge digester, and one influent pump well. Concrete tanks may also be used, but in North America are not as cost effective as steel for small systems. If the plant must be able to treat 0.1 to 1.5 MGD, multiple concrete SBR basins are commonly used (CASS, 1999).

The design of SBR systems can be based on carbonaceous BOD removal only or both carbonaceous and nitrogenous BOD removal. The system can be expanded to achieve optimum nitrification and carbonaceous removal by operating primarily in an oxic state with few anoxic periods such as during settle and decant.

Denitrification and biological phosphorous removal can be promoted by providing adequate anoxic periods after intense aerobic cycles. This allows DO to be dissipated and nitrate to be used by the consuming organism and released as elemental nitrogen. By introducing an anaerobic process after the anoxic process, bacteria conducive to excess phosphorous uptake will develop. Phosphorous will be released in the anaerobic phase, but additional phosphorous is incorporated into the cell mass during subsequent aerobic cycles. Since the excess phosphorous is incorporated in the cell mass, cell wastage must be practiced to achieve a net phosphorous removal. Anaerobic conditions should be avoided in treating the waste sludge since they may result in the release of the phosphorous.

A low food to microorganism (F:M) ratio SBR system designed for an average municipal flow pattern will usually have an operating cycle duration of four hours, or six cycles per day. For a two reactor system, there will be twelve cycles per day and for a four reactor system, twenty-four cycles per day. The distribution and number of cycles per day can be adjusted based on specific treatment requirements or to accommodate alternate inflow patterns.

Cycle sequences are time controlled with sufficient volume provided to handle design flow rates. If incoming flow is significantly less than the design flow, only a portion of the reactor capacity is utilized and aeration time periods can be reduced to save energy and prevent over aeration. If flow rates are greater than usual resulting from storm runoff, the control system detects the high rise in the reactor and modifies the cycle to integrate peak flow rates. This will shorten the aeration, settle, and decant sequences, minimize the anoxic sequence (if supplied), and provide more cycles per day. As a result, hydraulic surges are incorporated and the diluted wastewater is processed in less time. In order to make the above optimizations, the logic control must be provided by the PLC (Kappe, 1999).

Small SBRs can experience a variety of problems associated with operation, maintenance, and loadings. Therefore, more conservative design criteria are typically used due to the wide range of organic and hydraulic loads generated from small communities. This type of design utilizes a lower F:M ratio and longer hydraulic retention time (HRT) and SRT (CASS, 1999).

Oxidation ditches

Key components of a typical oxidation ditch include a screening device, an influent distributor (with some systems), a basin or channel, aeration devices (mechanical aerators, jet mixers, or diffusers, depending on the manufacturer), a settling tank or final clarifier (with some systems), and an RAS system (with some systems). Typically, the basin and the clarifier are individually sized to meet the specific requirements of each facility. These components are often built to share a common wall in order to reduce costs and save space (Lakeside, 1999).

Concrete tanks are typically used when installing package plant oxidation ditches. This results in lower maintenance costs as concrete tanks do not require periodic repainting or sand blasting. Fabricated steel or a combination of steel and concrete can also be used for construction, depending on site conditions (Lakeside, 1999).

The volume of the oxidation ditch is determined based on influent wastewater characteristics, effluent discharge requirements, HRT, SRT, temperature, mixed liquor suspended solids (MLSS), and pH. It may be necessary to include other site specific parameters to design the oxidation ditch as well.

Some oxidation ditches do not initially require clarifiers, but can later be upgraded and expanded by adding clarifiers, changing the type of process used, or adding additional ditches (Kruger, 1999).

PERFORMANCE

The performance of package plants in general can be affected by various operational and design issues (Metcalf and Eddy, 1991).

- Large and sudden temperature changes
- Removal efficiency of grease and scum from the primary clarifier (except with oxidation ditches that do not use primary clarifiers)
- Incredibly small flows that make designing self-cleansing conduits and channels difficult
- Fluctuations in flow, BOD_5 loading, and other influent parameters
- Hydraulic shock loads, or the large fluctuations in flow from small communities
- Sufficient control of the air supply rate

Extended aeration plants

Extended aeration plants typically perform extremely well and achieve effluent quality as seen in Table 2. If chemical precipitation is used, total phosphorous (TP) can be < 2 mg/L. In some cases, extended aeration systems result in effluent with < 15 mg/L BOD and < 10 mg/L TSS.

TABLE 2 EXTENDED AERATION PERFORMANCE

	Typical Effluent Quality	Aldie WWTP (monthly average)
BOD (mg/L)	< 30 or <10	5
TSS (mg/L)	< 30 or <10	17
TP (mg/L)	< 2*	**
NH_3-N (mg/L)	< 2	**

* May require chemicals to achieve.
** DEQ does not require monitoring of these parameters.

Source: Sloan, 1999 and Broderick, 1999.

Aldie Wastewater Treatment Plant

The Aldie Wastewater Treatment Plant, located in Aldie, Virginia, is an extended aeration facility which treats an average of 0.0031 MGD with a design flow of 0.015 MGD. This technology was chosen because it would allow the area to meet permit requirements while minimizing land use. The plant consists of an influent chamber which directs the flow to two parallel aeration basins, parallel clarifiers, and a UV disinfection system.

Sequencing batch reactors

The treatment performance of package plant SBRs is largely influenced by the plant operator. While the process requires little assistance, training programs are available to teach operators how to become skilled with small plant operations. SBRs perform well, often matching the removal efficiency of extended aeration processes. Systems can typically achieve the effluent limitations listed in Table 3.

In addition, SBR systems have demonstrated a greater removal efficiency of carbonaceous BOD than other systems due to optimization of microbial activity via anoxic stress and better utilization of applied oxygen in the cyclic system. The system can consistently provide carbonaceous BOD effluent levels of 10 mg/L.

TABLE 3 SBR PERFORMANCE

	Typical Effluent	Harrah WWTP	
		% Removal	Effluent
BOD (mg/L)	10	98	3
TSS (mg/L)	10	98	3
NH_3 (mg/L)	< 1	97	0.6

Source: Sloan, 1999 and Reynolds, 1999.

Harrah Wastewater Treatment Plant

The Harrah wastewater treatment plant in Oklahoma treats an average wastewater flow of 0.223 MGD. The SBR has achieved tertiary effluent quality without filtration from the time it was first installed. Pretreatment involves an aerated grit chamber and comminutor. Waste activated sludge is taken to a settling pond where the settled sludge is dredged annually. A nitrogen removal study performed for nine months confirmed that nitrification and denitrification occur consistently without special operator care.

Oxidation Ditches

Although the manufacturer's design may vary, most oxidation ditches typically achieve the effluent limitations listed in Table 4. With modifications, some oxidation ditches can achieve TN removal to # 5 mg/L and TP removal with biological means.

City of Ocoee Wastewater Treatment Plant

Currently, the wastewater treatment plant in Ocoee, Florida accepts an average flow of 1.1 to 1.2 MGD. The city chose to use an oxidation ditch because it was an easy technology for the plant staff to understand and implement. The facility is also designed for denitrification without the use of chemical additives. Nitrate levels consistently test at 0.8 to 1.0 mg/L with limits of 12 mg/L (Holland, 1999). Table 4 indicates how well the Ocoee oxidation ditch performs.

TABLE 4 OXIDATION DITCH PERFORMANCE

	Typical Effluent Quality		Ocoee WWTP	
	With 2° Clarifier	With Filter	% Removal	Effluent
CBOD (mg/L)	#10	5	> 97	4.8
TSS (mg/L)	#10	5	> 97	0.32
TP (mg/L)	2	1	NA	NA
$N\text{-}NO_3$ (mg/L)	NA	NA	> 95	0.25

Note: 2° = secondary. NA = not available.

Source: Kruger, 1999 and Holland, 1999.

OPERATION AND MAINTENANCE

Operation requirements will vary depending on state requirements for manning package treatment systems. Manning requirements for these systems may typically be less then eight hours a day. Each type of system has additional operational procedures that should be followed to keep the system running properly. Owners of these systems must be sure to follow all manufacturer's recommendations for routine and preventative maintenance requirements. Each owner should check with the manufacturer to determine essential operation and maintenance (O&M) requirements.

Depending on state requirements, most systems must submit regular reports to local agencies. In addition, system operators must make safety a primary concern. Wastewater treatment manuals and federal and state regulations should be checked to ensure safe operation of these systems.

Extended aeration plants

Operational procedures for these systems consist of performing fecal coliform tests on the effluent to ensure adequate disinfection and making periodic

inspections on dissolved oxygen levels (DO) and MLSS concentrations in the aeration compartment. Sludge-volume index (SVI) tests in the clarifier must also be performed to determine how well the sludge is settling. Other sampling and analyses will be required on the effluent in accordance with state regulations.

Typical maintenance steps for extended aeration systems include checking motors, gears, blowers, and pumps to ensure proper lubrication and operation. Routine inspection of equipment is also recommended to ensure proper operation. Check with the manufacturer for specific O&M requirements.

Sequencing batch reactors

To ensure proper functioning of the system, O&M must be provided for several pieces of equipment. Operational procedures include sampling and monitoring of DO, pH, and MLSS levels. Additional sampling and analyses on the effluent will be required based on state regulations.

Maintenance requirements include regular servicing of aeration blowers, which is usually performed when greasing is done, and monthly inspection of belts on the blowers to determine if they need to be adjusted or replaced. Submersible pumps require routine inspections and servicing as required by the manufacturer. The decanter will require monthly greasing. Additional O&M may be required depending on system requirements. Check with the manufacturer for specific maintenance requirements.

Oxidation ditches

Depending on the manufacturer's design, typical operational procedures for oxidation ditches include monitoring of DO, pH, MLSS, and various other types of sampling and analyses.

Maintenance steps include periodically inspecting the aerator, regularly greasing rotors, and following manufacturer recommendations for maintenance of the pumps. Operators should follow all manufacturer recommendations for operation and maintenance of the equipment.

COSTS

Costs are site specific and generally depend on flow rate, influent wastewater characteristics, effluent discharge requirements, additional required equipment, solids handling equipment, and other site specific conditions. Manufacturers should be contacted for specific cost information.

Extended aeration plants

As provided by Aeration Products, Inc., smaller extended aeration package plants designed to treat less than 0.02 MGD cost approximately $4 to $6 per gallon of water treated, based on capital costs. For larger plants, capital costs will be approximately between $2 to $2.50 per gallon of wastewater treated. Maintenance processes for these plants are labor-intensive and require semi-skilled personnel, and are usually completed through routine contract services. Maintenance cost averages $350 per year.

Table 5 provides the cost estimates for various extended aeration packages. These costs include the entire package plant, as well as a filtration unit.

TABLE 5 COST ESTIMATES FOR EXTENDED AERATION

Flow (MGD)	Estimated Budget Cost per Gallon ($)
0.015	9-11
0.04	7
1.0	1.3

Note: Larger flow rates are available from the manufacturer. Estimated cost per gallon was determined based on the mid-flow range.

Source: Parsons Engineering Science, 1999.

Sequencing batch reactors

The capital cost per capita for small SBR plants is greater than for large SBR plants. Approximate equipment costs disregarding concrete or steel tanks costs are provided in Table 6. Operation energy costs are likely to be higher for small SBR plants than for larger plants as a result of numerous loadings.

TABLE 6 COST ESTIMATES FOR SBRs

Flow (MGD)	Estimated Budget Cost per Gallon ($)
0.01	4-5
0.05	2
0.2	0.7
1.0	0.25

Note: Larger flow rates are available from the manufacturer. Estimated cost per gallon was determined based on the mid-flow range.

Source: CASS, 1999.

System costs will vary, depending on the specific job. Factors influencing cost include average and peak flow, tank type, type of aeration system used, effluent requirements, and site constraints. Operation and maintenance costs are site specific and may range from $800 to $2,000 dollars per million gallons treated. Labor and maintenance requirements may be reduced in SBRs because clarifiers and RAS pumps may not be necessary. On the other hand, maintenance requirements for the more sophisticated valves and switches associated with SBRs may be more costly than for other systems.

Oxidation ditches

Table 7 lists budget cost estimates for various sizes of oxidation ditches. Operation and maintenance costs for oxidation ditches are significantly lower than other secondary treatment processes. In comparison to other treatment technologies, energy requirements are low, operator attention is minimal, and chemical addition is not required.

REFERENCES

Other Related Fact Sheets

Sequencing Batch Reactors
EPA 932-F-99-073
September 1999

TABLE 7 COST ESTIMATES FOR OXIDATION DITCHES

Flow Range (MGD)	Budget Price ($)	Estimated Budget Cost per Gallon ($)
0 - 0.03	80,000	5.33
0.03 - 0.06	91,000	2.02
0.06 - 1.1	97,500	0.17
1.1 - 1.7	106,000	0.08
1.7 - 2.5	114,700	0.05

Note: Larger flow rates are available from the manufacturer. Estimated cost per gallon was determined based on the mid-flow range.

Source: Lakeside, 1999.

Oxidation Ditches
EPA 832-F-00-013
September 2000

Aerobic Treatment
EPA 832-F-00-031
September 2000

Other EPA Fact Sheets can be found at the following web address:
http://www.epa.gov/owmitnet/mtbfact.htm

1. Broderick, T., 1999. Aldie Wastewater Treatment Plant, Aldie, Virginia. Personal communication with Dacia Mosso, Parsons Engineering Science, Inc.

2. CASS Water Engineering, Inc., 2000. Literature provided by manufacturer.

3. Crites, R. and G. Tchobanoglous, 1998. *Small and Decentralized Wastewater Management Systems.* WCB McGraw-Hill, Inc. Boston, Massachusetts.

4. Holland, R, 1999. City of Ocoee Wastewater Treatment Plant, Ocoee, Florida. Personal communication with Dacia Mosso, Parsons Engineering Science, Inc.

5. Hydro-Aerobics, July 1999. Literature provided by manufacturer.

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9. Metcalf & Eddy, Inc., 1991. *Wastewater Engineering: Treatment, Disposal, and Reuse*. 3rd ed. The McGraw-Hill Companies. New York, New York.

10. Reynolds, S., 1999. US Filter Jet Tech, Edwardsville, Kansas. Personal communication with Dacia Mosso, Parsons Engineering Science.

11. Sloan Equipment, Owings Mills, Maryland, 1999. Literature provided by distributor and manufacturer (Aeration Products, Inc.).

12. Water Environment Federation (WEF), 1998. Design of Municipal Wastewater Treatment Plants. Manual of Practice No. 8. 4th ed. vol. 2. WEF. Alexandria, Virginia.

13. Water Environment Federation (WEF), 1985. Operation of Extended Aeration Package Plants. Manual of Practice No. OM-7. WEF. Alexandria, Virginia.

ADDITIONAL INFORMATION

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The mention of trade names or commercial products does not constitute endorsement or recommendation for use by the U.S. Environmental Protection Agency.

For more information contact:

Municipal Technology Branch
U.S. EPA
Mail Code 4204
1200 Pennsylvania Avenue, NW
Washington, D.C. 20460

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MUNICIPAL TECHNOLOGY BRANCH

Rolling Oaks Utilities, Inc.
Water Assets Cost Estimate

Description	Quantity	Unit	Quantity Info/ Assumption[1]	Date Installed	Date Info/ Assumption[1]	Estimated Unit Cost 2022	Cost Info/ Assumption[1]	Estimated Installation Cost 2022	Handy-Whitman Index Original Installed Year	Handy-Whitman Index 2022	Estimated Original Unit Cost	Estimated Original Installation Cost
Wells												
Well #1-10" Casing, 40 hp Pump	320	ft	1	1961	1	$ 150.00	11	$ 48,000.00	52	781	$ 9.99	$ 3,195.90
Well #2-10" Casing, 40 hp Pump	350	ft	1	1961	1	$ 150.00	11	$ 52,500.00	52	781	$ 9.99	$ 3,495.52
Well #4-10 Casing, 40 hp Pump	280	ft	1	1969	1	$ 150.00	11	$ 42,000.00	69	781	$ 13.25	$ 3,710.63
Well #5-10" Casing, 50 hp Pump	280	ft	1	1969	1	$ 175.00	11	$ 49,000.00	69	781	$ 15.46	$ 4,329.07
Well #6-10" Casing, 40 hp Pump	340	ft	1	1969	1	$ 150.00	11	$ 51,000.00	69	781	$ 13.25	$ 4,505.76
Well #7-12" Casing, 60 hp Pump	405	ft	1	1975	1	$ 175.00	11	$ 70,875.00	129	781	$ 28.91	$ 11,706.63
Well #8-12" Casing, 100 hp Pump	405	ft	1	1975	1	$ 200.00	11	$ 81,000.00	129	781	$ 33.03	$ 13,379.00
Well #9-12" Casing, 100 hp Pump	355	ft	1	1981	1	$ 200.00	11	$ 71,000.00	197	781	$ 50.45	$ 17,909.09
Well #10-12" Casing, 100 hp Pump	300	ft	1	1987	1	$ 200.00	11	$ 60,000.00	240	781	$ 61.46	$ 18,437.90
Well Buildings												
Well #1 Building	300	sq. ft.	7	1961	6	$ 60.00	7	$ 18,000.00	52	781	$ 3.99	$ 1,198.46
Well #2 Building	300	sq. ft.	7	1961	6	$ 60.00	7	$ 18,000.00	52	781	$ 3.99	$ 1,198.46
Well #4 Building	300	sq. ft.	7	1969	6	$ 60.00	7	$ 18,000.00	69	781	$ 5.30	$ 1,590.27
Well #5 Building	300	sq. ft.	7	1969	6	$ 60.00	7	$ 18,000.00	69	781	$ 5.30	$ 1,590.27
Well #6 Building	700	sq. ft.	7	1969	6	$ 60.00	7	$ 42,000.00	69	781	$ 5.30	$ 3,710.63
Well #7 Building	300	sq. ft.	7	1975	6	$ 60.00	7	$ 18,000.00	129	781	$ 9.91	$ 2,973.11
Well #8 Building	450	sq. ft.	7	1975	6	$ 60.00	7	$ 27,000.00	129	781	$ 9.91	$ 4,459.67
Well #9 Building	450	sq. ft.	7	1981	6	$ 60.00	7	$ 27,000.00	197	781	$ 15.13	$ 6,810.50
Well #10 Building	600	sq. ft.	7	1987	6	$ 60.00	7	$ 36,000.00	240	781	$ 18.44	$ 11,062.74
Disinfection												
Well #1 Sodium Hypochlorite	1	ea	1	1961	6	$ 10,000.00	12	$ 10,000.00	59	1083	$ 544.78	$ 544.78
Well #2 Sodium Hypochlorite	1	ea	1	1961	6	$ 10,000.00	12	$ 10,000.00	59	1083	$ 544.78	$ 544.78
Well #4 Sodium Hypochlorite	1	ea	1	1969	6	$ 10,000.00	12	$ 10,000.00	76	1083	$ 701.75	$ 701.75
Well #5 Sodium Hypochlorite	1	ea	1	1969	6	$ 10,000.00	12	$ 10,000.00	76	1083	$ 701.75	$ 701.75
Well #6 Sodium Hypochlorite	1	ea	1	1969	6	$ 10,000.00	12	$ 10,000.00	76	1083	$ 701.75	$ 701.75
Well #7 Sodium Hypochlorite	1	ea	1	1975	6	$ 10,000.00	12	$ 10,000.00	140	1083	$ 1,292.71	$ 1,292.71
Well #8 Sodium Hypochlorite	1	ea	1	1975	6	$ 10,000.00	12	$ 10,000.00	140	1083	$ 1,292.71	$ 1,292.71
Well #9 Sodium Hypochlorite	1	ea	1	1981	6	$ 10,000.00	12	$ 10,000.00	227	1083	$ 2,096.03	$ 2,096.03
Well #10 Sodium Hypochlorite	1	ea	1	1987	6	$ 10,000.00	12	$ 10,000.00	291	1083	$ 2,686.98	$ 2,686.98
Generators												
Well #8 Generator-125kW	1	ea	1	1975	6	$ 55,500.00	13	$ 55,500.00	155	1465	$ 5,872.01	$ 5,872.01
Well #10 Generator-100kW	1	ea	1	1987	6	$ 45,000.00	13	$ 45,000.00	299	1465	$ 9,184.30	$ 9,184.30
Tanks												
North Tank - 300,000 Gallons	1	ea	1	1961	6	$ 574,750.00	14	$ 574,750.00	37	1473	$ 14,437.03	$ 14,437.03
South Tank - 300,000 Gallons	1	ea	1	1981	6	$ 574,750.00	14	$ 574,750.00	250	1473	$ 97,547.52	$ 97,547.52
Water Main												
Water Main - 1961	1	ea	8	1961	6	$ 2,893,525.00	15	$ 2,893,525.00	70	844	$ 239,984.30	$ 239,984.30
Water Main - 1969	1	ea	8	1969	6	$ 2,208,550.00	15	$ 2,208,550.00	81	844	$ 211,958.00	$ 211,958.00
Water Main - 1975	1	ea	8	1975	6	$ 2,171,050.00	15	$ 2,171,050.00	147	844	$ 378,133.12	$ 378,133.12
Water Main - 1981	1	ea	8	1981	6	$ 5,103,800.00	15	$ 5,103,800.00	219	844	$ 1,324,327.25	$ 1,324,327.25
Water Main- 1987	1	ea	8	1987	6	$ 6,410,900.00	15	$ 6,410,900.00	253	844	$ 1,921,750.83	$ 1,921,750.83
Services and Meters												
Services and Meters - 1961	1	ea	9	1961	6	$ 2,024,000.00	16	$ 2,024,000.00	51	677	$ 152,472.67	$ 152,472.67
Services and Meters - 1969	1	ea	9	1969	6	$ 1,550,000.00	16	$ 1,550,000.00	73	677	$ 167,134.42	$ 167,134.42
Services and Meters - 1975	1	ea	9	1975	6	$ 1,438,000.00	16	$ 1,438,000.00	122	677	$ 259,137.37	$ 259,137.37
Services and Meters - 1981	1	ea	9	1981	6	$ 3,442,000.00	16	$ 3,442,000.00	187	677	$ 950,744.46	$ 950,744.46
Services and Meters- 1987	1	ea	9	1987	6	$ 3,546,000.00	16	$ 3,546,000.00	229	677	$ 1,199,459.38	$ 1,199,459.38
Hydrants												
Hydrants - 1961	1	ea	9	1961	6	$ 198,000.00	17	$ 198,000.00	55	1172	$ 9,291.81	$ 9,291.81
Hydrants - 1969	1	ea	9	1969	6	$ 153,000.00	17	$ 153,000.00	73	1172	$ 9,529.86	$ 9,529.86
Hydrants - 1975	1	ea	9	1975	6	$ 139,500.00	17	$ 139,500.00	144	1172	$ 17,139.93	$ 17,139.93
Hydrants - 1981	1	ea	9	1981	6	$ 337,500.00	17	$ 337,500.00	223	1172	$ 64,217.15	$ 64,217.15
Hydrants - 1987	1	ea	9	1987	6	$ 351,000.00	17	$ 351,000.00	304	1172	$ 91,044.37	$ 91,044.37
							Estimated Installation Cost 2022	$ 34,054,200.00			Estimated Original Installation Cost	$ 7,249,192.65

Note 1 - Info/Assumption number refers to the list in the Report.

Rolling Oaks Utilities, Inc.
Wastewater Asset Cost Estimate

Description	Quantity	Unit	Quantity Info/ Assumption[1]	Date Installed	Date Info/ Assumption[1]	Estimated Unit Cost 2022	Cost Info/ Assumption[1]	Estimated Installation Cost 2022	Handy-Whitman Index Original Installed Year	Handy-Whitman Index 2022	Estimated Original Unit Cost	Estimated Original Installation Cost
WWTP-Extended Aeration	575,000	gpd	1	1970	1	$ 5.60	18	$ 3,220,000.00	75	781	$ 0.54	$ 309,218.95
Sewer												
Sewer - 1970	1	ea	8	1970	6	$ 2,490,200.00	19	$ 2,490,200.00	87	884	$ 245,076.24	$ 245,076.24
Sewer - 1975	1	ea	8	1975	6	$ 2,494,300.00	19	$ 2,494,300.00	147	884	$ 414,776.13	$ 414,776.13
Sewer - 1981	1	ea	8	1981	6	$ 5,605,650.00	19	$ 5,605,650.00	219	884	$ 1,388,730.03	$ 1,388,730.03
Sewer - 1987	1	ea	8	1987	6	$ 5,997,850.00	19	$ 5,997,850.00	253	884	$ 1,716,579.24	$ 1,716,579.24
Lift Stations								$ -				
LS 2 - 2@25 hp	1	ea	1	1970	6	$ 120,000.00	20	$ 120,000.00	89	1465	$ 7,290.10	$ 7,290.10
LS 2A - 2@1 hp	1	ea	1	1975	6	$ 15,000.00	20	$ 15,000.00	155	1465	$ 1,587.03	$ 1,587.03
LS 3 - 2@20 hp	1	ea	1	1981	6	$ 100,000.00	20	$ 100,000.00	245	1465	$ 16,723.55	$ 16,723.55
LS 4 - 2@5 hp	1	ea	1	1975	6	$ 30,000.00	20	$ 30,000.00	155	1465	$ 3,174.06	$ 3,174.06
LS 5 - 2@15 hp	1	ea	1	1970	6	$ 100,000.00	20	$ 100,000.00	89	1465	$ 6,075.09	$ 6,075.09
LS 6 - 2@5 hp	1	ea	1	1981	6	$ 30,000.00	20	$ 30,000.00	245	1465	$ 5,017.06	$ 5,017.06
LS 7 - 2@1.5 hp	1	ea	1	1981	6	$ 15,000.00	20	$ 15,000.00	245	1465	$ 2,508.53	$ 2,508.53
LS 8 - 2@20 hp	1	ea	1	1981	6	$ 100,000.00	20	$ 100,000.00	245	1465	$ 16,723.55	$ 16,723.55
LS 9 - 2@3 hp	1	ea	1	1987	6	$ 30,000.00	20	$ 30,000.00	299	1465	$ 6,122.87	$ 6,122.87
LS 10 - 2@6.5 hp	1	ea	1	1987	6	$ 55,000.00	20	$ 55,000.00	299	1465	$ 11,225.26	$ 11,225.26
LS 11 - unk hp assume 2@5 hp	1	ea	1	1987	6	$ 30,000.00	20	$ 30,000.00	299	1465	$ 6,122.87	$ 6,122.87
LS 12 - 2@20 hp	1	ea	1	1987	6	$ 100,000.00	20	$ 100,000.00	299	1465	$ 20,409.56	$ 20,409.56
LS 13 - 2@7.5 hp	1	ea	1	2022	6	$ 55,000.00	20	$ 55,000.00	1465	1465	$ 55,000.00	$ 55,000.00
LS 14 - 1@3 hp	1	ea	1	1987	6	$ 25,000.00	20	$ 25,000.00	299	1465	$ 5,102.39	$ 5,102.39
Manholes												
Manholes - 1970	142	ea	10	1970	6	$ 4,000.00	21	$ 568,000.00	87	884	$ 393.67	$ 55,900.45
Manholes - 1975	140	ea	10	1975	6	$ 4,000.00	21	$ 560,000.00	147	884	$ 665.16	$ 93,122.17
Manholes - 1981	257	ea	10	1981	6	$ 4,000.00	21	$ 1,028,000.00	219	884	$ 990.95	$ 254,674.21
Manholes - 1987	314	ea	10	1987	6	$ 4,000.00	21	$ 1,256,000.00	253	884	$ 1,144.80	$ 359,466.06
Service Laterals												
Service Laterals - 1970	705	ea	10	1970	6	$ 400.00	22	$ 282,000.00	81	677	$ 47.86	$ 33,740.03
Service Laterals - 1975	707	ea	10	1975	6	$ 400.00	22	$ 282,800.00	122	677	$ 72.08	$ 50,962.48
Service Laterals - 1981	1,600	ea	10	1981	6	$ 400.00	22	$ 640,000.00	187	677	$ 110.49	$ 176,779.91
Service Laterals - 1987	1,698	ea	10	1987	6	$ 400.00	22	$ 679,200.00	229	677	$ 135.30	$ 229,744.17
							Estimated Installation Cost 2022	$ 25,909,000.00			Estimated Original Installation Cost	$ 5,491,852.00

Note 1 - Info/Assumption number refers to the list in the Report.

APPENDIX D in Asset Report Prepared by Flinn Engineering, LLC dated 08/23/22

Workpaper: ROU W-14 WW-14: Depreciation Basis

BASIS FOR WATER DEPRECIATION CHARGES

ACCT. NO. (a)	ACCOUNT NAME (b)	AVERAGE SERVICE LIFE IN YEARS (c)	AVERAGE NET SALVAGE IN PERCENT (d)	DEPRECIATION RATE APPLIED IN PERCENT (100% - d) / c (e)
304	Structures and Improvements	40		2.50%
305	Collecting and Impounding Reservoirs			
306	Lake, River and Other Intakes			
307	Wells and Springs	30		3.33%
308	Infiltration Galleries and Tunnels			
309	Supply Mains			
310	Power Generation Equipment			
311	Pumping Equipment	20		5.00%
320	Water Treatment Equipment			
330	Distribution Reservoirs and Standpipes	35		2.86%
331	Transmission and Distribution Mains			
333	Services			
334	Meters and Meter Installations	20		5.00%
335	Hydrants	45		2.22%
336	Backflow Prevention Devices			
339	Other Plant Miscellaneous Equipment			
340	Office Furniture and Equipment	15		6.67%
341	Transportation Equipment	6		16.67%
342	Stores Equipment			
343	Tools, Shop and Garage Equipment	16		6.25%
344	Laboratory Equipment			
345	Power Operated Equipment	12		8.33%
346	Communication Equipment			
347	Miscellaneous Equipment			
348	Other Tangible Plant			

From Rolling Oaks Utilities Full Rate Case Application dated September 28, 2020

Workpaper: ROU W-14 WW-14: Depreciation Basis

BASIS FOR WASTEWATER DEPRECIATION CHARGES

ACCT. NO. (a)	ACCOUNT NAME (b)	AVERAGE SERVICE LIFE IN YEARS (c)	AVERAGE NET SALVAGE IN PERCENT (d)	DEPRECIATION RATE APPLIED IN PERCENT (100% - D) / C (e)
354	Structures and Improvements	40		2.50%
355	Power Generation Equipment	35		2.86%
360	Collection Sewers - Force			
361	Collection Sewers - Gravity			
362	Special Collecting Structures			
363	Services to Customers	38		2.63%
364	Flow Measuring Devices			
365	Flow Measuring Installations			
366	Reuse Services			
367	Reuse Meters and Meter Installations			
370	Receiving Wells			
371	Pumping Equipment	18		5.56%
374	Reuse Distribution Reservoirs			
375	Reuse Transmission/Distribution Sys.			
380	Treatment and Disposal Equipment	18		5.56%
381	Plant Sewers			
382	Outfall Sewer Lines			
389	Other Plant Miscellaneous Equipment			
390	Office Furniture and Equipment	15		6.67%
391	Transportation Equipment	6		16.67%
392	Stores Equipment			
393	Tools, Shop and Garage Equipment	16		6.25%
394	Laboratory Equipment			
395	Power Operated Equipment	12		8.33%
396	Communication Equipment			
397	Miscellaneous Equipment			
398	Other Tangible Plant			

From Rolling Oaks Utilities Full Rate Case Application dated September 28, 2020

VILLAGE GREENS WATER COMPANY
SCHEDULE of DEPRECIATION RATES
(WATER Class D)
WR-2015-0138 Attachment D

NARUC USOA ACCOUNT NUMBER	ACCOUNT DESCRIPTION	DEPRECIATION RATE	AVERAGE SERVICE LIFE (YEARS)	NET SALVAGE
	Source of Supply			
311	Structures & Improvements	2.5%	44	-10%
314	Wells & Springs	2.0%	55	-8%
	Pumping Plant			
321	Structures & Improvements	2.5%	44	-10%
325.1	Submersible Pumping Equipment	10.0%	12	-20%
	Water Treatment Plant			
331	Structures & Improvements	2.5%	44	-10%
332	Water Treatment Equipment	2.9%	35	0%
	Transmission and Distribution			
342	Distribution Reservoirs & Standpipes	2.5%	42	-5%
343	Transmission & Distribution Mains	2.0%	50	0%
345	Customer Services	2.5%	40	0%
346.1	Customer Meters, Plastic (Throw Aways)	10.0%	10	0%
347	Customer Meter Pits & Installation	2.5%	40	0%
348	Hydrants	2.0%	50	0%
	General Plant CLASS D			
371	Structures & Improvements	2.5%	40	0%
372	Office Furniture & Equipment	5.0%	20	0%
372.1	Office Electronic & Computer Equip.	14.3%	7	0%
373	Transportation Equipment	13.0%	7	9%
379	Other General Equipment (tools, shop equip., backhoes, trenchers, etc.)	10.0%	8.7	13%

https://www.efis.psc.mo.gov/mpsc/commoncomponents/view_itemno_details.asp?caseno=WR-2015-0138&attach_id=2015030930

*Revised 1/23/2015

For Staff Proposed Adoption by Missouri-American Water Company
WM-2016-0169

Woodland Manor Water Company
SCHEDULE of DEPRECIATION RATES dated 4/1/2013
(WATER Class D)
WR-2013-0326

USOA ACCOUNT NUMBER	ACCOUNT DESCRIPTION	DEPRECIATION RATE	AVERAGE SERVICE LIFE (YEARS)	NET SALVAGE
	Source of Supply			
311	Structures & Improvements	2.5%	44	-10%
314	Wells & Springs	2.0%	55	-8%
	Pumping Plant			
321	Structures & Improvements	2.5%	44	-10%
325	Electric Pumping Equip. (Plus Generator)	6.7%	15	0%
328	Other Pumping Equipment	5.0%	20	0%
	WaterTreatment Plant			
332	Water Treatment Equipment	2.9%	35	$0
	Transmission and Distribution			
342	Distribution Reservoirs & Standpipes	2.5%	42	-5%
343	Transmission & Distribution Mains	2.0%	50	0%
345	Customer Services	2.9%	35	0%
346.1	Customer Meters (Installed after 2012)*	10.0%	10	0%
346.2	Bronze Meters and Installs prior 2013	3.3%	30	0%
347	Meter Installations (Meter Pits after 2012)	2.5%	40	0%
348	Hydrants	2.5%	40	0%
349	Other Transmission & Distribution Plant	3.3%	30	0%
	General Plant			
372	Office Equipment & Furniture	5.0%	20	0%
372.1	Office Electronic Equipment	14.3%	7	0%
373	Transportation Equipment	13.0%	7	9%
379	Other General Equipment	6.7%	13	13%

Customer Meters (Installed after 2012)* Plus 18 plastic meters installed in 2007

The above recommended depreciation rates are based on Staff's review of the Company's operation and records.

https://www.efis.psc.mo.gov/mpsc/commoncomponents/view_itemno_details.asp?caseno=WM-2016-0169&attach_id=2016015052

SPOKANE HIGHLANDS WATER COMPANY
DEPRECIATION RATES
(WATER)
CASE NO. WR-2015-0104

ACCOUNT NUMBER	ACCOUNT	DEPRECIATION RATE %	AVERAGE SERVICE LIFE (YEARS)	SALVAGE %
311	Structures & Improvements	2.5%	44	-10%
314	Wells & Springs	2.0%	55	-8%
325	Electric Pumping Equipment			
325.1	Submersible (Well Pump) Equipment	10.0%	12	-20%
325.2	High Service or Booster Pumps	2.0%	7	0%
342	Distribution Reservoirs & Standpipes	2.5%	42	-5%
343	Transmission & Distribution Mains	2.0%	50	0%
345	Services	2.9%	35	0%
346	Meters	2.0%	10	0%
347	Meter Installations	1.0%	50	0%
348	Hydrants	2.5%	40	0%
372	Office Furniture & Equipment	5.0%	20	0%
379	Other General Equipment	6.7%	13	13%

Terre Du Lac Utility Company

DEPRECIATION RATES

(SEWER)

SR-2014-0105

ACCOUNT NUMBER	ACCOUNT DESCRIPTION	DEPRECIATION RATE	AVERAGE SERVICE LIFE (YEARS)	NET SALVAGE
300	Stipulated Plant	2.5%	40	0%
311	Structures and Improvements	2.5%	44	-10%
352.1	Collection Sewers (Force)	2.0%	50	0%
352.2	Collection Sewers (Gravity)	2.0%	50	0%
353	Services	2.0%	50	0%
354	Flow Measurement Devices	3.3%	30	0%
362	Receiving Wells	5.0%	26	-5%
363	Electric Pumping Equipment	10.0%	10	0%
371	Treatment Plant Shed	2.5%	44	-10%
372	Treatment & Disposal Equipment	5.0%	22	-10%
390	Structures & Improvements Office/Shop	2.5%	44	-10%
391	Office Furniture & Equipment	5.0%	20	0%
391.1	Electronic Office Equipment	0.0%	Excessively Accrued	
392	Transportation Equipment	13.0%	7	9%
393	Stores Equipment	4.0%	25	0%
394	Tools, Shop, and Garage Equipment	5.0%	18	10%
395	Laboratory Equipment	8.3%	12	0%
396	Power Operated Equipment	6.7%	13	13%
397	Communication Equipment	3.3%	Over Accrued	

Reviewed, 1/7/2014. The above are standard small company depreciation rates modified as a result of Staff's investigation of the Company's operation, records, and physical plant, and are dependent on the Company's implementation of the end of test year adjustments to the Company's plant in service and accumulated reserves as shown in the Staff accounting schedules.

https://www.efis.psc.mo.gov/mpsc/commoncomponents/view_itemno_details.asp?caseno=SR-2014-0105&attach_id=2014014505

P.C.B., Inc.

SCHEDULE of DEPRECIATION RATES
(SEWER Class C & D)

SR-2014-0068 Attachment D

ACCOUNT NUMBER	ACCOUNT DESCRIPTION	DEPRECIATION RATE	AVERAGE SERVICE LIFE (YEARS)
	COLLECTION PLANT		
311	Structures & Improvements	3.3%	33
352.2	Collection Sewers (Gravity)	2.0%	50
355	Flow Measurement Devices	3.3%	30
	PUMPING PLANT		
362	Receiving Wells	4.0%	26
363	Electric Pumping Equipment	10.0%	10
	TREATMENT & DISPOSAL PLANT		
372	Oxidation Lagoons	4.0%	40
373	Treatment & Disposal Facilities	5.0%	22
375	Outfall Sewer Lines	2.0%	50
	GENERAL PLANT		
391	Office Furniture & Equipment	5.0%	20

Reviewed, 1/07/2014. The above are standard small company depreciation rates modified as a result of Staff's investigation of the Company's operation, records, and physical plant, and are dependent on the Company's implementation of the end of test year adjustments to the Company's plant in service and accumulated reserves as shown in the Staff accounting schedules.

Rogue Creek Sewer
Interim Rate Case
SR-2013-0435
Test Year Ending 12-31-2012
Depreciation Expense - Sewer

Line Number	A Account Number	B Plant Account Description	C Adjusted Jurisdictional	D Depreciation Rate	E Depreciation Expense
1		INTANGIBLE PLANT			
2	301.000	Organization	$135	0.00%	$0
3	302.000	Franchises	$1,127	0.00%	$0
4	303.000	Miscellaneous Intangible Plant	$0	0.00%	$0
5		TOTAL INTANGIBLE PLANT	$1,262		$0
6		SOURCE OF SUPPLY PLANT			
7	310.000	Land & Land Rights	$0	0.00%	$0
8	311.000	Structures & Improvements	$2,532	3.00%	$76
9		TOTAL SOURCE OF SUPPLY PLANT	$2,532		$76
10		COLLECTION PLANT			
11	352.100	Collection Sewers - Force	$12,827	2.00%	$257
12	352.200	Collection Sewers - Gravity	$105,094	2.00%	$2,102
13	353.000	Other Collection Plant Facilities	$0	0.00%	$0
14	354.000	Services to Customers	$18,120	2.00%	$362
15	355.000	Flow Measuring Devices	$0	0.00%	$0
16		TOTAL COLLECTION PLANT	$136,041		$2,721
17		PUMPING PLANT			
18	362.000	Receiving Wells and Pump Pits	$1,804	5.00%	$90
19	363.000	Pumping Equipment (Elec.,Diesel, other)	$24,068	10.00%	$2,407
20		TOTAL PUMPING PLANT	$25,872		$2,497
21		TREATMENT & DISPOSAL PLANT			
22	372.000	Oxidation Lagoon	$0	0.00%	$0
23	373.000	Treatment and Disposal Equipment	$31,190	4.50%	$1,404
24	374.000	Plant Sewers	$0	0.00%	$0
25	375.000	Outfall Sewer Lines	$0	0.00%	$0
26	376.000	Other Treatment & Disposal Plant Equip.	$0	0.00%	$0
27		TOTAL TREATEMENT & DISPOSAL PLANT	$31,190		$1,404
28		GENERAL PLANT			
29	391.000	Office Furniture & Equipment	$467	5.00%	$23
30	391.100	Office Computer Equipment	$371	20.00%	$74
31	392.000	Transportation Equipment	$228	13.00%	$30
32	394.000	Tools Shop & Garage Equipment.	$15	5.00%	$1
33		TOTAL GENERAL PLANT	$1,081		$128
34		Total Depreciation	$197,978		$6,826

https://www.efis.psc.mo.gov/mpsc/commoncomponents/view_itemno_details.asp?caseno=SR-2013-0435&attach_id=2013018070

Rolling Oaks Utilities, Inc.
Asset Report
Depreciated Value

Appendix E
August 22, 2022

Asset Description	Year Installed	Estimated Installation Cost	Age (2022)	Depreciation Period [1]	Depreciation [2]	Depreciated Value [3]
Wells						
Well #1-10" Casing, 40 hp Pump	1961	$ 3,195.90	61	30	$ 6,498.34	$ -
Well #2-10" Casing, 40 hp Pump	1961	$ 3,495.52	61	30	$ 7,107.55	$ -
Well #4-10 Casing, 40 hp Pump	1969	$ 3,710.63	53	30	$ 6,555.44	$ -
Well #5-10" Casing, 50 hp Pump	1969	$ 4,329.07	53	30	$ 7,648.02	$ -
Well #6-10" Casing, 40 hp Pump	1969	$ 4,505.76	53	30	$ 7,960.18	$ -
Well #7-12" Casing, 60 hp Pump	1975	$ 11,706.63	47	30	$ 18,340.38	$ -
Well #8-12" Casing, 100 hp Pump	1975	$ 13,379.00	47	30	$ 20,960.44	$ -
Well #9-12" Casing, 100 hp Pump	1981	$ 17,909.09	41	30	$ 24,475.76	$ -
Well #10-12" Casing, 100 hp Pump	1987	$ 18,437.90	35	30	$ 21,510.88	$ -
Well Buildings						
Well #1 Building	1961	$ 1,198.46	61	40	$ 1,827.66	$ -
Well #2 Building	1961	$ 1,198.46	61	40	$ 1,827.66	$ -
Well #4 Building	1969	$ 1,590.27	53	40	$ 2,107.11	$ -
Well #5 Building	1969	$ 1,590.27	53	40	$ 2,107.11	$ -
Well #6 Building	1969	$ 3,710.63	53	40	$ 4,916.58	$ -
Well #7 Building	1975	$ 2,973.11	47	40	$ 3,493.41	$ -
Well #8 Building	1975	$ 4,459.67	47	40	$ 5,240.11	$ -
Well #9 Building	1981	$ 6,810.50	41	40	$ 6,980.76	$ -
Well #10 Building	1987	$ 11,062.74	35	40	$ 9,679.90	$ 1,382.84
Disinfection						
Well #1 Sodium Hypochlorite	1961	$ 544.78	61	35	$ 949.48	$ -
Well #2 Sodium Hypochlorite	1961	$ 544.78	61	35	$ 949.48	$ -
Well #4 Sodium Hypochlorite	1969	$ 701.75	53	35	$ 1,062.66	$ -
Well #5 Sodium Hypochlorite	1969	$ 701.75	53	35	$ 1,062.66	$ -
Well #6 Sodium Hypochlorite	1969	$ 701.75	53	35	$ 1,062.66	$ -
Well #7 Sodium Hypochlorite	1975	$ 1,292.71	47	35	$ 1,735.92	$ -
Well #8 Sodium Hypochlorite	1975	$ 1,292.71	47	35	$ 1,735.92	$ -
Well #9 Sodium Hypochlorite	1981	$ 2,096.03	41	35	$ 2,455.35	$ -
Well #10 Sodium Hypochlorite	1987	$ 2,686.98	35	35	$ 2,686.98	$ -

Rolling Oaks Utilities, Inc.
Asset Report
Depreciated Value

Asset Description	Year Installed	Estimated Installation Cost	Age (2022)	Depreciation Period [1]	Depreciation [2]	Depreciated Value [3]
Generators						
Well #8 Generator-125kW	1975	$ 5,872.01	47	35	$ 7,885.28	$ -
Well #10 Generator-100kW	1987	$ 9,184.30	35	35	$ 9,184.30	$ -
Tanks						
North Tank - 300,000 Gallons	1961	$ 14,437.03	61	35	$ 25,161.69	$ -
South Tank - 300,000 Gallons	1981	$ 97,547.52	41	35	$ 114,269.95	$ -
Water Main						
Water Main - 1961	1961	$ 239,984.30	61	50	$ 292,780.85	$ -
Water Main - 1969	1969	$ 211,958.00	53	50	$ 224,675.48	$ -
Water Main - 1975	1975	$ 378,133.12	47	50	$ 355,445.13	$ 22,687.99
Water Main - 1981	1981	$ 1,324,327.25	41	50	$ 1,085,948.35	$ 238,378.91
Water Main- 1987	1987	$ 1,921,750.83	35	50	$ 1,345,225.58	$ 576,525.25
Services and Meters						
Services and Meters - 1961	1961	$ 152,472.67	61	20	$ 465,041.65	$ -
Services and Meters - 1969	1969	$ 167,134.42	53	20	$ 442,906.20	$ -
Services and Meters - 1975	1975	$ 259,137.37	47	20	$ 608,972.82	$ -
Services and Meters - 1981	1981	$ 950,744.46	41	20	$ 1,949,026.14	$ -
Services and Meters- 1987	1987	$ 1,199,459.38	35	20	$ 2,099,053.91	$ -
Hydrants						
Hydrants - 1961	1961	$ 9,291.81	61	45	$ 12,595.56	$ -
Hydrants - 1969	1969	$ 9,529.86	53	45	$ 11,224.06	$ -
Hydrants - 1975	1975	$ 17,139.93	47	45	$ 17,901.71	$ -
Hydrants - 1981	1981	$ 64,217.15	41	45	$ 58,508.96	$ 5,708.19
Hydrants - 1987	1987	$ 91,044.37	35	45	$ 70,812.29	$ 20,232.08
Total Water Assets		$ 7,249,192.65				$ 864,915.26

Rolling Oaks Utilities, Inc.
Asset Report
Depreciated Value

Asset Description	Year Installed	Estimated Installation Cost	Age (2022)	Depreciation Period [1]	Depreciation [2]	Depreciated Value [3]
WWTP-Extended Aeration	1970	$ 309,218.95	52	18	$ 893,299.19	$ -
Sewer						
Sewer - 1970	1970	$ 245,076.24	52	50	$ 254,879.29	$ -
Sewer - 1975	1975	$ 414,776.13	47	50	$ 389,889.56	$ 24,886.57
Sewer - 1981	1981	$ 1,388,730.03	41	50	$ 1,138,758.63	$ 249,971.41
Sewer - 1987	1987	$ 1,716,579.24	35	50	$ 1,201,605.47	$ 514,973.77
Lift Stations						
LS 2 - 2@25 hp	1970	$ 7,290.10	52	18	$ 21,060.30	$ -
LS 2A - 2@1 hp	1975	$ 1,587.03	47	18	$ 4,143.91	$ -
LS 3 - 2@20 hp	1981	$ 16,723.55	41	18	$ 38,092.53	$ -
LS 4 - 2@5 hp	1975	$ 3,174.06	47	18	$ 8,287.83	$ -
LS 5 - 2@15 hp	1970	$ 6,075.09	52	18	$ 17,550.25	$ -
LS 6 - 2@5 hp	1981	$ 5,017.06	41	18	$ 11,427.76	$ -
LS 7 - 2@1.5 hp	1981	$ 2,508.53	41	18	$ 5,713.88	$ -
LS 8 - 2@20 hp	1981	$ 16,723.55	41	18	$ 38,092.53	$ -
LS 9 - 2@3 hp	1987	$ 6,122.87	35	18	$ 11,905.57	$ -
LS 10 - 2@6.5 hp	1987	$ 11,225.26	35	18	$ 21,826.89	$ -
LS 11 - unk hp assume 2@5 hp	1987	$ 6,122.87	35	18	$ 11,905.57	$ -
LS 12 - 2@20 hp	1987	$ 20,409.56	35	18	$ 39,685.25	$ -
LS 13 - 2@7.5 hp	2022	$ 55,000.00	0	18	$ -	$ 55,000.00
LS 14 - 1@3 hp	1987	$ 5,102.39	35	18	$ 9,921.31	$ -

Rolling Oaks Utilities, Inc.
Asset Report
Depreciated Value

Asset Description	Year Installed	Estimated Installation Cost	Age (2022)	Depreciation Period [1]	Depreciation [2]	Depreciated Value [3]
Manholes						
Manholes - 1970	1970	$ 55,900.45	52	50	$ 58,136.47	$ -
Manholes - 1975	1975	$ 93,122.17	47	50	$ 87,534.84	$ 5,587.33
Manholes - 1981	1981	$ 254,674.21	41	50	$ 208,832.85	$ 45,841.36
Manholes - 1987	1987	$ 359,466.06	35	50	$ 251,626.24	$ 107,839.82
Service Laterals						
Service Laterals - 1970	1970	$ 33,740.03	52	38	$ 46,170.57	$ -
Service Laterals - 1975	1975	$ 50,962.48	47	38	$ 63,032.54	$ -
Service Laterals - 1981	1981	$ 176,779.91	41	38	$ 190,736.22	$ -
Service Laterals - 1987	1987	$ 229,744.17	35	38	$ 211,606.47	$ 18,137.70
Total Wastewater Assets		$ 5,491,852.00				$ 1,022,237.96

Note 1 - Based on Depreciation Rates and Schedules attached in Appendix D

Note 2 - Depreciation = Age/Depreciation Period X Estimated Installation Cost

Note 3 - Depreciated Value = Estimated Installation Cost - Depreciation

Data Request # 11
Additional Costs

CSWR Florida- Rolling Oaks

Category	Vendor	Amount
Closing Costs		110,000.00
Engineering - GIS	21 Design Group Inc.	56,052.50
Engineering - Survey	21 Design Group Inc.	439,588.51
Engineering - Survey	Clearpoint Consulting Engine	33,187.50
Legal - Real Estate	Beckemeier LeMoine Law	8,009.45
Legal - Real Estate	Radey Law Firm	700.00
Legal - Real Estate	Title Search - Rolling Oaks FL	5,600.00
Total		653,137.96

Data Request # 14
Journal Entries

CSWR Florida Utility Operating Company
Rolling Oaks- Purchase/Acquisition Assets

Date of Staff Report Used	12/31/2019
In-Service Date	11/30/2022
Purchase Price	33,000,000.00
Closing cost	110,000.00
Earnest Money	150,000.00

Journal Entry to transfer In-Service assets post acquisition

Acct Name	Acct #	Debit	Credit	Note	Type
Utility Plant Purchased	104.000		33,110,000.00	Total closing consideration	W&S
Land & Land Rights	353.000	55,000.00		Closing Costs	Sewer
Land & Land Rights	303.000	55,000.00		Closing Costs	Water
CIAC - Water	271.000		2,301,106.00	2021 Annual Report	Water
CIAC - Sewer	271.000		2,245,689.00	2021 Annual Report	Sewer
CIAC - Accum Amort - Water	272.000	1,868,342.00		2021 Annual Report	Water
CIAC - Accum Amort -Sewer	272.000	1,836,972.00		2021 Annual Report	Sewer
Land and Land Rights	303.000	9,928.00		2019 Annual Report	Water
Structure and Improvements	304.000	18,355.00		2019 Annual Report	Water
Wells and Springs	307.000	552,913.03		2019 Annual Report	Water
Pumping Equipment	311.000	147,169.42		2019 Annual Report	Water
Distribution Reservoirs and standpipes	330.000	710,780.40		2019 Annual Report	Water
Transmission and Distribution Mains	331.000	1,299,828.62		2019 Annual Report	Water
Services	333.000	11,714.00		2019 Annual Report	Water
Meters and Meter Installations	334.000	168,283.67		2019 Annual Report	Water
Hydrants	335.000	13,330.61		2019 Annual Report	Water
Office Furniture and Equipment	340.000	35,391.41		2019 Annual Report	Water
Transportation Equipment	341.000	250,602.01		2019 Annual Report	Water
Tools, Shop and Garage Equipment	343.000	14,237.32		2019 Annual Report	Water
Power Operated Equipment	345.000	20,437.27		2019 Annual Report	Water
Land and Land Rights	353.000	9,860.96		2019 Annual Report	Sewer
Structure and Improvements	354.000	501,559.00		2019 Annual Report	Sewer
Collection Sewers - Force	360.000	2,685,144.71		2019 Annual Report	Sewer
Services to Customers	363.000	81,015.00		2019 Annual Report	Sewer
Pumping Equipment	371.000	327,174.20		2019 Annual Report	Sewer
Treatment and Disposal Equipment	380.000	1,657,876.96		2019 Annual Report	Sewer
Office Furniture and Equipment	389.000	36,430.16		2019 Annual Report	Sewer
Transportation Equipment	391.000	187,836.37		2019 Annual Report	Sewer
Tools, Shop and Garage Equipment	393.000	12,356.79		2019 Annual Report	Sewer
Power Operated Equipment	395.000	23,945.94		2019 Annual Report	Sewer
Construction in progress	105.001	112,289.58		2019 Annual Report	Sewer
Construction in progress	105.001	112,289.58		2019 Annual Report	Sewer
Accum. Depreciation	108.000		8,434,869.54	2022 August YTD Addition Report	W&S
Pumping Equipment	311.000	19,224.49		2022 August YTD Addition Report	Water
Hydrants	335.000	4,064.55		2022 August YTD Addition Report	Water
Transportation Equipment	341.000	1,472.85		2022 August YTD Addition Report	Water
Collection Sewers - Force	360.000	15,525.00		2022 August YTD Addition Report	Sewer
Pumping Equipment	371.000	77,421.28		2022 August YTD Addition Report	Sewer
Treatment and Disposal Equipment	380.000	82,311.03		2022 August YTD Addition Report	Sewer
Power Generation Equipment	355.000	14,360.00		2022 August YTD Addition Report	Sewer
Land & Land Right	353.000	1,000,000.00		Valbridge Appraisal Report	Sewer
Land & Land Right	303.000	1,000,000.00		Valbridge Appraisal Report	Water
Land & Land Right	353.000	1,362,500.00		Valbridge Appraisal Report	Sewer
Land & Land Right	303.000	1,362,500.00		Valbridge Appraisal Report	Water
Acquisition Adjustment	114.000	14,168,110.67		Acq Adjustment	Water
Acquisition Adjustment	114.000	14,168,110.66		Acq Adjustment	Sewer
		46,091,664.54	**46,091,664.54**		

Data Request # 15
Post Acquisition Pro Forma

Rolling Oaks

	2021	Y0	Y1	Y2	Y3	Y4	Y5
ERU's	11,290	11,290	11,290	11,290	11,290	11,290	11,290
Rate*	21.86	21.86	59.23	59.23	64.97	64.97	64.97
Revenue	2,961,850	2,751,573	8,024,480	8,024,480	8,802,136	8,802,136	8,802,136
Outside labor expenses	(2,451,109)	(866,400)	(896,724)	(928,109)	(960,593)	(994,214)	(1,029,012)
Administrative and office expense	0	(371,359)	(384,357)	(397,809)	(411,732)	(426,143)	(441,058)
Maintenance and repair expense	0	(211,153)	(218,544)	(226,193)	(234,110)	(242,303)	(250,784)
Purchased water	0	0	0	0	0	0	0
Purchased sewage treatment	0	(22,791)	(23,589)	(24,414)	(25,269)	(26,153)	(27,069)
Electric power expense (exclude office)	0	(268,577)	(277,977)	(287,707)	(297,776)	(308,199)	(318,986)
Chemicals expense	0	(99,882)	(103,378)	(106,996)	(110,741)	(114,617)	(118,628)
Testing fees	0	(37,405)	(38,714)	(40,069)	(41,471)	(42,923)	(44,425)
Transportation expense	0	0	0	0	0	0	0
Other operating expense	0	(335,399)	(347,138)	(359,287)	(371,862)	(384,878)	(398,348)
Total Operating Expense	(2,451,109)	(2,212,966)	(2,290,420)	(2,370,584)	(2,453,555)	(2,539,429)	(2,628,309)
Depreciation	(58,668)	(10,318)	(18,875)	(37,750)	(56,625)	(75,500)	(75,500)
Interest	0	0	0	0	(558,344)	(483,910)	(426,302)
Total Expenses	(2,509,777)	(2,223,284)	(2,309,295)	(2,408,334)	(3,068,524)	(3,098,840)	(3,130,111)
Operating Income	**452,073**	**528,290**	**5,715,186**	**5,616,146**	**5,733,612**	**5,703,296**	**5,672,025**
Income Tax	(201,559)	0	(1,514,524)	(1,488,279)	(1,519,407)	(1,511,373)	(1,503,087)
Net Income	**250,514**	**528,290**	**4,200,662**	**4,127,867**	**4,214,205**	**4,191,923**	**4,168,938**

*Rate reflects average consolidated bills per ERU assuming 5,000 gallons of usage per month

ASSUMPTIONS						
Total FL ERU's	21,075	32,654	33,447	39,430	45,495	51,643
ERU's in Rate		15,989	15,989	29,751	29,751	29,751
Total FL Rate Base	0	57,234	57,234	84,024	84,024	84,024
Total FL Rev Req	0	11,364	11,364	23,195	23,195	23,195
System ERU's	11,290	11,290	11,290	11,290	11,290	11,290
System Acq Premium	0	32,444	32,444	32,444	32,444	32,444
Equity	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%
ROE	9.5%	9.5%	9.5%	9.5%	9.5%	9.5%
Tax Rate	26.5%	26.5%	26.5%	26.5%	26.5%	26.5%
Rate with Acq Premium	0	59.23	59.23	64.97	64.97	64.97
Inflation Rate	0.0%	3.5%	3.5%	3.5%	3.5%	3.5%
Amortization Years	30	30	30	30	30	30
Additional Plant Investment	0	755,000	755,000	755,000	755,000	0
Depreciation Rate	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
Debt Issuance	0	0	0	30,000,000	30,000,000	30,000,000
Interest Rate	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%

CALCULATIONS						
Additional Depreciation Expense	0	(18,875)	(37,750)	(56,625)	(75,500)	(75,500)
Interest Expense	0	0	0	(1,950,000)	(1,950,000)	(1,950,000)
Equity Return with Acq Premium	0	2,719	2,719	3,991	3,991	3,991
Equity Return w/o Acq Premium	0	1,178	1,178	2,450	2,450	2,450
Tax Return with Acq Premium	0	980	980	1,439	1,439	1,439
Tax Return w/o Acq Premium	0	425	425	883	883	883
Acq Premium Amortization	0	1,081	1,081	1,081	1,081	1,081
Total Net Impact of Acq Premium		**3,178**	**3,178**	**3,178**	**3,178**	**3,178**
Rate Adjustment		**28.0%**	**28.0%**	**13.7%**	**13.7%**	**13.7%**
Rate w/o Acq Premium		**42.66**	**42.66**	**56.07**	**56.07**	**56.07**
Revenue Requirement w/o Acq Premium		**8,186**	**8,186**	**20,017**	**20,017**	**20,017**

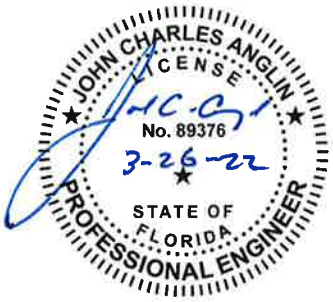
Data Request # 24

WATER FACILITY REPORT
ROLLING OAKS UTILITIES, INC.

LOCATION:
CITRUS COUNTY, FLORIDA

PREPARED FOR:
Central States Water Resources
500 Northwest Plaza Dr., Suite 500
St. Ann, MO 63074

DATE:
March 2022



PREPARED BY:
Clearpoint
CONSULTING ENGINEERS, P.A.
6652 U.S. Highway 98
Hattiesburg, MS 39402

ENGINEERING MEMO
ROLLING OAKS UTILITIES
CITRUS COUNTY, FL
MARCH 2022

1. Introduction
    a. General System Info
        i. Subdivision(s) Served:
        Laurel Ridge and Beverly Hills
        ii. Current Owner:
        Ronald Collins
        iii. Customer Count and Type:
        6,000 total customers, made up of 5,880 residential customers and 120 commercial customers
        iv. General Geographic Location of Service Area:
        Beverly Hills, Florida, Citrus County
        v. Future Developments or Phases in Service Area:
        New Development going in now with 266 new connections; another 1,600 acres in the certificated area to be developed with approximately 5,000 connections. Plans are to install a 1-million-gallon ground storage tank in this new development.
        vi. PWS Facility Name
        Rolling Oaks Utility, Inc.
        vii. Permit Number:
        PWS ID Number: 6090150, Florida Department of Environmental Protection
        viii. Estimated Daily Usage:
        Average Daily Demand 1.8 MGD
        Maximum Daily Demand 2.5 MGD
        Total Design Capacity 5.6 MGD
        ix. System Awards:
        In 2017 and 2020 Rolling Oaks Utility received the Medium Water System of the Year Award.

2. Water Production and/or Treatment Facility
    a. Facility Description
        i. Facility Type:
        Ground Water Florida Class 5C
        ii. Approximate Age of Facility, Source Used to Age Facility
        Rolling Hills original system and wells were started in 1961 (61 years old), Florida DEP Sanitary Survey 2020
        iii. Main System Components Table
        Below is a list of the systems main components and their capacity, according to the Florida DEP's 2020 Sanitary Survey.

Component Description	Location	Size (GPM)	Year Drilled	Depth	Casing	HP
Well # 1	27 N Monroe St	400	1961	320'	10"	40
Well #2	27 N Monroe St	400	1961	350'	10"	40
Well #4	17 S Osceala St	400	1969	280'	10"	40
Well #5	71 S Osceala St	550	1969	208'	10"	50
Well # 6	74 S Washington St	400	1969	340'	10"	40
Well # 7	200 S Monroe St	600	1975	405'	12"	60
Well # 8	267 Fathom Loop	750	1975	405'	12"	100
Well # 9	37 SJ Kellner Blvd	800	1981	455'	12"	100
Well # 10	324 W Staggerbush Path	800	1987	300'	12"	100
Elevated Tanks	**Location**	**Size (Gal.)**	**Last Inspect.**	**Repainted**		
North Tank	5 Esskey St	300,000		2021		
South Tank	4 Laurenshire St	300,000	Apr-19	Due 2022		

iv. Description of Facility and Main System Components:

1. The 9 Water Wells are Vertical Hollow shaft Turbine Pumps and motors. They are made up of various sizes and horsepower's ranging from 40 hp to 100 Hp, (listed in chart above.) They are all 3-phase with the smaller ones being 230v and the larger 440V.
2. Well #8 has a 125 KW permanent Mount Generator on site with Transfer switch and well # 10 has a 100 KW Onan Permanent mount generator on site with transfer switch.
3. General Condition: The overall condition of the facility sites is good, very clean and well kept. The vegetation is controlled by mowing and weed eating. Some of the sites are fenced in with six-foot-chain link fence with three strands of barb wire at the top. There are several places that need to be mended in the fence and possibly some painting of the fence due to rust. These sites have cinder block buildings on them that are locked at all times. The other sites without the fencing have cinder block buildings with all pumps and equipment inside the buildings, which is locked at all times. These buildings appear to be in good shape with some minor carpentry work and painting needed.
4. While still in good condition, the age of some of the nine (9) wells are at or nearing the age of the typical lifespan of a well. While they may continue to produce for years to come, this needs to be considered. Well #5 is mainly used as a backup well and is only run a couple times in a month. Well #'s 8 and 10 are the main operating wells and both are on the DATA Flow Scada System.

5. Elevated Storage Tanks: The system has two 300,000-gallon elevated storage tanks. These tanks are under a maintenance Contract with Suez. Both tanks appear to be in good shape with no visible rust issues noticed. The North tank was recently repainted in 2021. The south tank is due to be repainted in the summer or fall of 2022. According to the Florida Department of Environmental Protection survey report, the tanks were last inspected in April of 2019. Both tank overflows are at the same elevation therefore no altitude valve or float control is needed for the tanks.
6. Rolling Oaks Utility currently serves 6,262 Equivalent Residential Connections (ERCs) with the potential to serve up to a maximum of 33,346 ERCs. This information was gathered from their annual report, presented in the tables below.

Size	Type of Meter	Factor	# of Meters	ERCs
5/8"	Displacement	1.0	5,814	5,814
3/4"	Displacement	1.5	173	260
1"	Displacement	2.5	36	90
1 1/2"	Displacement or Turbine	5.0	10	50
2"	Displacement, Compound or Turbine	8.0	6	48
		Total Water System Meter Equivalents		6,262

2020 Annual Report	# of ERCs	Potential
1. Present ERCs * the system can efficiently serve.	13,165	
2. Maximum number of ERCs * which can be served.	33,346	
3. Present system connection capacity (in ERCs *) using existing lines.		13,165
4. Future connection capacity (in ERCs *) upon service area buildout.		33,346
5. Estimated annual increase in ERCs *.		25
6. Is the utility required to have fire flow capacity?	Yes	
If so, how much capacity is required?	1,500 GPM for 4 hours	

v. Rolling Oaks uses hypochlorination for their disinfection process. At the time of inspection, all disinfection equipment was properly working at all sites.

b. Permit Info
    i. Permit Status:
    The permit for Rolling Oaks is good through 8/20/2038. Below are the withdrawal allowances for each active well.

Well #	Average GPD	Peak GPD
Well #1	173,000	223,200
Well #2	157,300	202,900
Well #4	110,100	142,000
Well #5	31,500	40,600
Well #6	94,400	121,800
Well #7	204,300	263,500
Well #8	361,800	466,700
Well #9	220,300	284,200
Well #10	220,300	284,200
Totals	**1,573,000**	**2,029,100**

    ii. Brief Compliance Review Narrative:
        1. On the Sanitary Survey conducted on January 22, 2020, the system was determined to be in compliance. One deficiency was noted on the survey, which was a crack in the well head concrete pad. This was repaired that afternoon and is noted below.
        2. The most recent violation occurred in October of 2018, when only one of three follow up samples were taken. This was corrected in November of 2018, and a public notice was issued.

c. Recommended Repairs and Improvements Summary
    i. Triage Repairs
        1. Repair/replace security fencing (Well #1 & #2 site)
        2. Minor repair and painting of cmu building (Well #1 site)
        3. Replace panel boxes and transfer switch at cmu building (Well #2 site)
        4. Interior & exterior painting of cmu building (Well #4 site)
        5. Install SCADA system for monitor/control of all wells excluding Well #8 and Well #10
    ii. Improvements and Other Repairs
        1. Install chlorine residual monitoring equipment at all wells excluding Well #6

3. Water Distribution System
    a. Distribution System Description
        i. System Material, Size, Footages, Age, etc.:
        The system is made up of galvanized, PVC, and about 20% of the lines are asbestos cement lines. The size ranges from 2 ½" to 12" lines. Most of the 2 ½' mains are in the back yards therefore eliminating road bores to many of the homes served. The service lines are poly pipe and almost all are

TABLE OF CONTENTS

ATTACHMENTS

SUPPORTING DOCUMENTATION TO WATER ENGINEERING MEMO

ROLLING OAKS UTILITIES, INC.

LOCATION:

CITRUS COUNTY, FLORIDA

PREPARED FOR:

Central States Water Resources
500 Northwest Plaza Dr., Suite 500
St. Ann, MO 63074

DATE:

March 2022

PREPARED BY:

Clearpoint
CONSULTING ENGINEERS, P.A.
6652 U.S. Highway 98
Hattiesburg, MS 39402

ATTACHMENT A

Water System Permit Information

Report Cover Page

Selection Criteria:

- Permit Number: 4153
- Permit Revision: 14
- Report Name: WUP File of Record Report

Permit #: 4153.014

Permit Dept: Brooksville

Permittee Name: Rolling Oaks Utilities, Inc./Attn: Mr. Collins

Address: P.O. Box 641030

Beverly Hills, FL 34464

Phone: (352) 746-7761

Application Received: 05/01/2018

Issue Date: 08/20/2018

Expire Date: 08/20/2038

Type: Individual

Class: Renewal

Project Name: Rolling Oaks Utilities

Acres:

Owned	Controlled	Serviced	Leased	Total
50.00	0.00	3,036.00		3,086.00

Total Quantities:

	Avg GPD	Avg Drought GPD	Peak GPD	Max GPD
Requested	2,500,000	Not Specified	4,250,000	Not Specified
Permitted	1,573,000	Not Specified	2,029,100	Not Specified

Pred Use Type: Public Supply

WUCA: Not In A Wuca

Basin: Withlacoochee River

County: Citrus

Referencing:

Township	Range	Section(s)
18	18	01, 11, 13, 14, 15

Withdrawals:

District ID #: 1 **User ID:** 1

WD Type: Withdrawal of Groundwater **WD Status:** Existing **Well Use:** Public Supply

Predom. Use: Public Supply **Site Function:** Public Supply **Site Operation:** No Further Info Necessary

Monitor Type: **Monitor Use:**

Stand By Qty	Casing Diam	Casing Depth	Total Depth	WD Avg GPD	WD Peak GPD	WD Max GPD	Latitude	Longitude
	10	295	320	173,000	223,200	N/A	28° 55' 36.00"	82° 27' 10.70"

District ID #: 9 **User ID:** 9

WD Type: Withdrawal of Groundwater **WD Status:** Existing **Well Use:** Public Supply

Predom. Use: Public Supply **Site Function:** Public Supply **Site Operation:** No Further Info Necessary

Monitor Type: **Monitor Use:**

Stand By Qty	Casing Diam	Casing Depth	Total Depth	WD Avg GPD	WD Peak GPD	WD Max GPD	Latitude	Longitude
	12	192	355	220,300	284,200	N/A	28° 54' 28.00"	82° 27' 53.90"

District ID #: 10 **User ID:** 10

WD Type: Withdrawal of Groundwater **WD Status:** Existing **Well Use:** Public Supply

Predom. Use: Public Supply **Site Function:** Public Supply **Site Operation:** No Further Info Necessary

Monitor Type: **Monitor Use:**

Stand By Qty	Casing Diam	Casing Depth	Total Depth	WD Avg GPD	WD Peak GPD	WD Max GPD	Latitude	Longitude
	12	257	300	220,300	284,200	N/A	28° 54' 59.80"	82° 26' 23.20"

Withdrawals: ***(continued)***

District ID #: 7 **User ID:** 7

WD Type: Withdrawal of Groundwater **WD Status:** Existing **Well Use:** Public Supply

Predom. Use: Public Supply **Site Function:** Public Supply **Site Operation:** No Further Info Necessary

Monitor Type: **Monitor Use:**

Stand By Qty	Casing Diam	Casing Depth	Total Depth	WD Avg GPD	WD Peak GPD	WD Max GPD	Latitude	Longitude
	12	238	405	204,300	263,500	N/A	28° 54' 54.10"	82° 27' 50.70"

District ID #: 8 **User ID:** 8

WD Type: Withdrawal of Groundwater **WD Status:** Existing **Well Use:** Public Supply

Predom. Use: Public Supply **Site Function:** Public Supply **Site Operation:** No Further Info Necessary

Monitor Type: **Monitor Use:**

Stand By Qty	Casing Diam	Casing Depth	Total Depth	WD Avg GPD	WD Peak GPD	WD Max GPD	Latitude	Longitude
	12	149	405	361,800	466,700	N/A	28° 55' 00.10"	82° 28' 09.50"

District ID #: 5 **User ID:** 5

WD Type: Withdrawal of Groundwater **WD Status:** Existing **Well Use:** Public Supply

Predom. Use: Public Supply **Site Function:** Public Supply **Site Operation:** No Further Info Necessary

Monitor Type: **Monitor Use:**

Stand By Qty	Casing Diam	Casing Depth	Total Depth	WD Avg GPD	WD Peak GPD	WD Max GPD	Latitude	Longitude
	10	89	280	31,500	40,600	N/A	28° 54' 47.30"	82° 27' 13.30"

Withdrawals: ***(continued)***

District ID #: 2 **User ID:** 2

WD Type: Withdrawal of Groundwater **WD Status:** Existing **Well Use:** Public Supply

Predom. Use: Public Supply **Site Function:** Public Supply **Site Operation:** No Further Info Necessary

Monitor Type: **Monitor Use:**

Stand By Qty	Casing Diam	Casing Depth	Total Depth	WD Avg GPD	WD Peak GPD	WD Max GPD	Latitude	Longitude
	10	295	350	157,300	202,900	N/A	28° 55' 35.40"	82° 27' 11.50"

District ID #: 4 **User ID:** 4

WD Type: Withdrawal of Groundwater **WD Status:** Existing **Well Use:** Public Supply

Predom. Use: Public Supply **Site Function:** Public Supply **Site Operation:** No Further Info Necessary

Monitor Type: **Monitor Use:**

Stand By Qty	Casing Diam	Casing Depth	Total Depth	WD Avg GPD	WD Peak GPD	WD Max GPD	Latitude	Longitude
	10	218	280	110,100	142,000	N/A	28° 55' 04.40"	82° 26' 57.70"

District ID #: 6 **User ID:** 6

WD Type: Withdrawal of Groundwater **WD Status:** Existing **Well Use:** Public Supply

Predom. Use: Public Supply **Site Function:** Public Supply **Site Operation:** No Further Info Necessary

Monitor Type: **Monitor Use:**

Stand By Qty	Casing Diam	Casing Depth	Total Depth	WD Avg GPD	WD Peak GPD	WD Max GPD	Latitude	Longitude
	10	219	340	94,400	121,800	N/A	28° 55' 14.50"	82° 27' 52.70"

Use:

District ID #	Use Type	Predominant Use Type	Use Avg GPD	Drought GPD	Use Peak GPD	Use Max GPD	Use Acreage	Soil Type	IRR Method
1	Commercial/Industrial	Public Supply	91,200		117,600				
1	Fire Fighting/Testing	Public Supply	60,800		78,400				
1	Line Flushing	Public Supply	15,000		19,400		0.00		
1	Residential Multi-Family	Public Supply	15,200		19,600		0.00		
1	Residential Single Family	Public Supply	1,200,800		1,549,000				
1	Treatment Losses (Backflushing)	Public Supply	38,000		49,000		0.00		
1	Unaccounted Use	Public Supply	152,000		196,100				

ATTACHMENT B

Historical Documentation

IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER

Monitoring Requirements Not Met for Beverly Hills

Our water system violated drinking water requirements over the past month. Even though these were not emergencies, as our customers, you have a right to know what happened and what we are doing (did) to correct these situations.

**We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not our drinking water meets health standards. During October 2018 we collected 10 required Distribution Samples in which one was positive for Total Coliform, requiring 3 repeat samples to be taken. However, only 1 of the 3 repeat samples were taken. The remaining 2 samples were taken in November and found to be in compliance.*

What should I do?

There is nothing you need to do at this time.

The table below lists the contaminant(s) we did not properly test for during the month, how often we are supposed to sample for this contaminant, how many samples we are supposed to take, how many samples we took, when samples should have been taken, and the date on which follow-up samples were taken.

Contaminant	Required sampling frequency	Number of samples taken	When samples should have been taken	When samples were taken
Bacteriological	Monthly, 3-additional repeats following a positive distribution samples	1	October 2018	November 2018

What is being done?

2 Remaining samples were taken in November
For more information, please contact Rolling Oaks Utilities at 352-746-4291 or Po Box 641030 Beverly Hills FL 34465.

> **Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.**

This notice is being sent to you by Rolling Oaks Utilities. State Water System ID#:609-0150.

Date distributed: 12/15/2018

PWS CERTIFICATION OF DELIVERY OF PUBLIC NOTICE

INSTRUCTIONS: The supplier of water, within ten days of completion of each public notification requirement pursuant to Part IV of Chapter 62-560, Florida Administrative Code, shall submit to the appropriate Department of Environmental Protection District Office or Approved County Health Department a completed DEP Form 62-555.900(22), Certification of Delivery of Public Notice, and include with the form a representative copy of each type of notice distributed, published, posted, and made available to the persons served by the system, and the media. All information provided on this form shall be typed or printed in ink.

I. General Information		
Public Water System (PWS) Name: Rolling Oaks Utilities		
PWS ID: 609-0150		
PWS Type: ☒ Community ☐ Non-Transient Non-Community ☐ Transient Non-Community		
PWS Owner: Rolling Oaks Utilities		
Contact Person: Kyle Johnson	Contact Person's Title: Operation Manager	
Contact Person's Mailing Address: PO Box 641030		
City: Beverly Hills	State: FL.	Zip Code: 34465
Contact Person's Telephone Number: 352-746-4291	Contact Person's Fax Number: 352-746-0157	
Contact Person's E-Mail Address: kyle@rollingoaksutilities.com		

II. Certification						
For Violation/Situation: Missed 2 repeat samples						
Date of Occurrence: October 2018						
Consultation Date December 2018						
Delivery Methods:	☐ Radio/TV	☑ Mail	☐ Newspaper	☐ Hand Delivery	☐ Posting	☐ Other(describe)
Delivery Date/s:	12/19/2018					

I am duly authorized to sign this form on behalf of the public water system identified in Part I of this form. I certify that the information provided on this form is correct to the best of my knowledge and that public notice has been provided to consumers in accordance with the delivery, content, and format requirements and deadlines in Chapter 62-560, Florida Administrative Code.

12-18-18	Kyle Johnson	Operations Manager
Signature and Date	Printed or Typed Name	Title

ATTACHMENT C

Existing Rate Schedule

RESIDENTIAL AND GENERAL SERVICE
RATE SCHEDULE RS

AVAILABILITY	Available throughout the are served by the company
APPLICABILITY	For water service for all purposes in private residences and individual metered apartment units.
LIMITATION	Subject to all rules and regulations of this Tariff and General Rules and Regulations of the Citrus County Water and Wastewater Authority.
BILLING PERIOD	Monthly

Meter Size	OLD RATE 01/01/2022 Base Facility Charge	NEW RATE 02/02/2022 Base Facility Charge	Gallonage Charge (Conservation Inverted Block Rates)	OLD	NEW	
5/8" X 3/4"	$ 10.66	$ 12.11	0 - 10,000 Gallons -	$ 0.64	$ 0.73	Per One Thousand Gallons
			10,001 - 20,000 Gallons	$ 1.22	$ 1.39	Per One Thousand Gallons
			20,001 - 30,000 Gallons -	$ 1.84	$ 2.09	Per One Thousand Gallons
			30,001 - 40,000 Gallons -	$ 2.46	$ 2.79	Per One Thousand Gallons
			Over 40,000 Gallons	$ 3.05	$ 3.46	Per One Thousand Gallons
1"	$ 26.59	$ 30.19	0 - 25,000 Gallons -	$ 0.64	$ 0.73	Per One Thousand Gallons
			25,001 - 50,000 Gallons -	$ 1.22	$ 1.39	Per One Thousand Gallons
			50,001 - 75,000 Gallons -	$ 1.84	$ 2.09	Per One Thousand Gallons
			75,001 - 100,000 Gallons -	$ 2.46	$ 2.79	Per One Thousand Gallons
			Over 100,000 Gallons	$ 3.05	$ 3.46	Per One Thousand Gallons
1-1/2"	$ 53.15	$ 60.34	0 - 50,000 Gallons -	$ 0.64	$ 0.73	Per One Thousand Gallons
			50,001 - 100,000 Gallons -	$ 1.22	$ 1.39	Per One Thousand Gallons
			100,001 - 150,000 Gallons -	$ 1.84	$ 2.09	Per One Thousand Gallons
			150,001 - 200,000 Gallons	$ 2.46	$ 2.79	Per One Thousand Gallons
			Over 200,000 Gallons	$ 3.05	$ 3.46	Per One Thousand Gallons
2"	$ 85.00	$ 96.51	0 - 80,000 Gallons - $	$ 0.64	$ 0.73	Per One Thousand Gallons
			80,001 - 160,000 Gallons -	$ 1.22	$ 1.39	Per One Thousand Gallons
			160,001 - 240,000 Gallons -	$ 1.84	$ 2.09	Per One Thousand Gallons
			240,001 - 320,000 Gallons -	$ 2.46	$ 2.79	Per One Thousand Gallons
			Over 320,000 Gallons	$ 3.05	$ 3.46	Per One Thousand Gallons
3"	$ 169.96	$ 192.96	0 - 160,000 Gallons -	$ 0.64	$ 0.73	Per One Thousand Gallons
			160,001 - 320,000 Gallons -	$ 1.22	$ 1.39	Per One Thousand Gallons
			320,001 - 480,000 Gallons -	$ 1.84	$ 2.09	Per One Thousand Gallons
			480,001 - 640,000 Gallons -	$ 2.46	$ 2.79	Per One Thousand Gallons
			Over 640,000 Gallons	$ 3.05	$ 3.46	Per One Thousand Gallons
4"	$ 265.54	$ 301.48	0 - 250,000 Gallons -	$ 0.64	$ 0.73	Per One Thousand Gallons
			250,001 - 500,000 Gallons -	$ 1.22	$ 1.39	Per One Thousand Gallons
			500,001 - 750,000 Gallons -	$ 1.84	$ 2.09	Per One Thousand Gallons
			750,001 - 1,000,000 Gallons -	$ 2.46	$ 2.79	Per One Thousand Gallons
			Over 1,000,000 Gallons	$ 3.05	$ 3.46	Per One Thousand Gallons
6"	$ 531.04	$ 602.51	Per gallon charge the same as for 4"			

MINIMUM CHARGE	Applicable Base Facility Charge
TERMS OF PAYMENT	Bills are due and payable when rendered and become delinquent if not paid within sixteen (16) days for customers residing in the State of Florida and twenty one (21) days for customers residing outside the State of Florida. After five (5) working days written notice is mailed to the customer, separate and apart from any other bill, service may then be discontinued.
EFFECTIVE DATE	2/1/22
TYPE OF FILING	Rate Case

Rolling Oaks Utilities, Inc.
WASTEWATER TARIFF

GENERAL SERVICE
RATE SCHEDULE GS

AVAILABILITY	Available throughout the are served by the company
APPLICABILITY	For water service for allpurposes in private residences and individuall metered appartment units.
LIMITATION	Subject to all rules and regulations of this Tariff and General Rules and Regulations of the Citrus County Water and Wastewater Authority.
BILLING PERIOD	Monthly

RATE

Meter Size	OLD BASE FACILITY CHARGE	02/01/2022 NEW BASE FACILITY CHARGE
5/8" X 3/4"	$17.30	$18.55
1"	$43.18	$46.27
1-1/2"	$86.30	$92.48
2"	$138.05	$147.94
3"	$276.05	$295.81
4"	$431.05	$461.91
6"	$621.05	$665.50
8"	$862.55	$924.29

GALLONAGE CHARGE	RESIDENTAIL UP TO 6,000 GALLONS	$3.25 / $3.49
	COMMERCIAL NO MAXIMUM	$3.95 / $4.24
MINIMUM CHARGE	Applicable Base Facility Charge	

Details of the Rate Case may be viewed at Rolling Oaks Utilities 4071 N Lecanto Hwy, Beverly Hills, FL. 34465
Or the Lecanto Government Building Water Authority 3600 W Sovereign Path Lecanto, FL. 34461

ATTACHMENT D

Local Vendor Recommendations

a. Recommendations for local vendors
    i. O&M Companies: US Water Services, Utility Technicians
    ii. Labs or Testing Companies: Aqua Pure
    iii. General Contractors: Oxford Pipeline
    iv. Well Drillers
    v. Electricians

ATTACHMENT E

Site Photographs


NW N NE
330 0 30 60
16°N (T) ◉ 28°55'14"N, 82°27'52"W ±16ft ▲ 92
WELL #6
621-4335
Well#6
Your Watermark - See Settings
07 Mar 2022, 10:09:07


W NW N
240 270 300 330 0
302°NW (T) ◉ 28°55'14"N, 82°27'52"W ±16ft ▲ 93
WARNING
HIGH
VOLTAGE
Well#6
Your Watermark - See Settings
07 Mar 2022, 10:09:43


NE E SE
30 60 90 120
81°E (T) ◉ 28°55'14"N, 82°27'52"W ±16ft ▲ 88
Well#6
Your Watermark - See Settings
07 Mar 2022, 10:10:06


W NW
240 270 300 330
294°NW (T) ◉ 28°55'14"N, 82°27'52"W ±16ft ▲ 87
WARNING
HIGH
VOLTAGE
Well#6
Your Watermark - See Settings
07 Mar 2022, 10:10:23


S SW W
180 210 24 270 300
242°SW (T) 28°55'14"N, 82°27'52"W ±16ft ▲ 83
ow chlorine monitors
Well#6
Your Watermark - See Settings
07 Mar 2022, 10:11:08


SW W NW
240 270 300 330
286°W (T) 28°55'14"N, 82°27'52"W ±16ft ▲ 93
Hypo Chlorination
Well#6
Your Watermark - See Settings
07 Mar 2022, 10:11:50


N NE E
0 30 60 90
42°NE (T) 28°55'14"N, 82°27'52"W ±16ft ▲ 92
Free Chlorine
MENU ESC
ENTER
MODEL Q46
Free chlorine
Well#6
Your Watermark - See Settings
07 Mar 2022, 10:12:28


S SW W
180 210 240 270
223°SW (T) 28°55'14"N, 82°27'52"W ±16ft ▲ 91
X-LINK
SENSAPHONE 400
TRIPP-LITE
ow chlorine monitors
Well#6
Your Watermark - See Settings
07 Mar 2022, 10:13:07


Data flow low chlorine and pressure
Your Watermark - See Settings
171°S (T) 28°54'59"N, 82°28'9"W ±16ft ▲105ft
07 Mar 2022, 10:18:35
Well#8


SE
S
SW
120
150
180
210
240
184°S (T) 28°55'0"N, 82°28'9"W ±16ft ▲103
HIGH THRUST
U.S. ELECTRICAL MOTORS
TAW
ORLANDO SERVICE CENTER
MOTOR AND PUMP REPAIR
3400 BARLETT BOULEVARD
ORLANDO, FLORIDA 32811
407-423-1886
Your Watermark - See Settings
07 Mar 2022, 10:19:47


NW
N
NE
300
330
0
30
353°N (T) 28°55'0"N, 82°28'9"W ±16ft ▲103
HIGH THRUST
U.S. ELECTRICAL MOTORS
TAW
ORLANDO SERVICE CENTER
MOTOR AND PUMP REPAIR
3400 BARLETT BOULEVARD
ORLANDO, FLORIDA 32811
407-423-1886
Name Plate
Your Watermark - See Settings
07 Mar 2022, 10:20:08


E
SE
S
90
120
150
180
210
154°SE (T) 28°55'0"N, 82°28'9"W ±16ft ▲105
Your Watermark - See Settings
07 Mar 2022, 10:20:43


NE
E
SE
30
60
90
120
150
87°E (T) ◉ 28°55'0"N, 82°28'9"W ±16ft ▲ 102
Well#8
Your Watermark - See Settings
07 Mar 2022, 10:21:15


Switch over and logs
Your Watermark - See Settings
185°S (T) ◉ 28°55'0"N, 82°28'9"W ±16ft ▲ 98ft
AUTOMATIC TRANSFER SWITCH
THOMSON TECHNOLOGY
Well#8
07 Mar 2022, 10:21:35


NW
N
300
330
0
30
336°NW (T) ◉ 28°54'59"N, 82°28'9"W ±16ft ▲ 99
125 KW
KATOLIGHT
125 KW generator
Well#8
Your Watermark - See Settings
07 Mar 2022, 10:22:19


NW
NE
300
330
30
60
358°N (T) ◉ 28°54'59"N, 82°28'9"W ±16ft ▲ 100
Hypo unit
Well#8
Your Watermark - See Settings
07 Mar 2022, 10:22:53


E
SE
S
60
90
120
150
180
123°SE (T) ◉ 28°55'0"N, 82°28'9"W ±16ft ▲ 99
Chlorine constant monitoring
Your Watermark - See Settings
Well#8
07 Mar 2022, 10:23:41


NW
N
NE
330
0
30
60
6°N (T) ◉ 28°54'27"N, 82°27'54"W ±16ft ▲ 117
00 Hp
Your Watermark - See Settings
Well#9
07 Mar 2022, 10:37:23


NE
E
SE
30
60
90
120
73°E (T) ◉ 28°54'28"N, 82°27'53"W ±16ft ▲ 109
Going to pull
Your Watermark - See Settings
Well#9
07 Mar 2022, 10:38:02

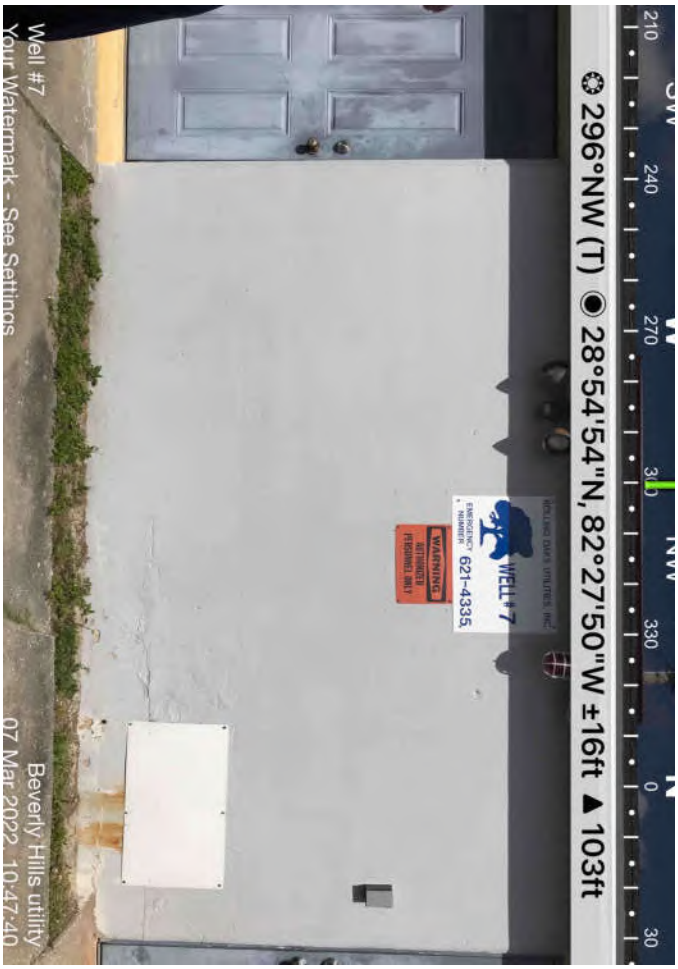

NE
E
SE
30
60
120
150
88°E (T) ◉ 28°54'28"N, 82°27'53"W ±16ft ▲ 107
Pitted, going to change out
Your Watermark - See Settings
Well#9
07 Mar 2022, 10:39:02


SW W NW
240 270 300 330
286°W (T) 28°54'28"N, 82°27'53"W ±16ft ▲ 107
Monitoring low chlorine
Your Watermark - See Settings
Well#9
07 Mar 2022, 10:39:38


SW W NW
240 270 300 330
284°W (T) 28°54'28"N, 82°27'54"W ±16ft ▲ 112
Free Chlorine
Chlorine monitor
Your Watermark - See Settings
Well#9
07 Mar 2022, 10:40:25


NE E
30 60 90 120
68°E (T) 28°54'28"N, 82°27'54"W ±16ft ▲ 112
Hypo Chlorinator system
Your Watermark - See Settings
Well#9
07 Mar 2022, 10:40:52

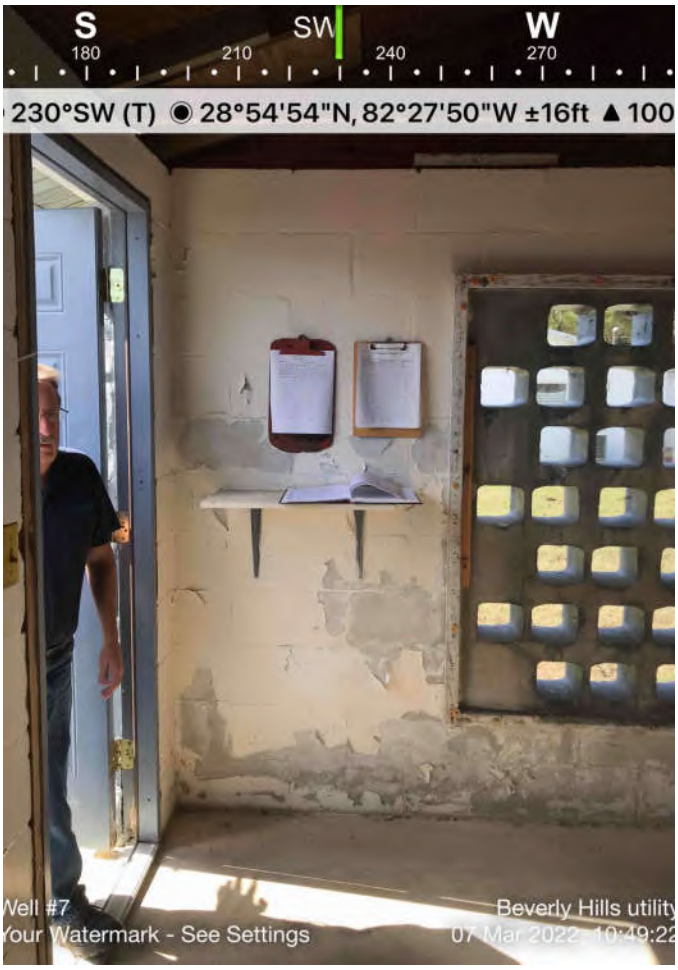

SE S
120 150 180 210
157°SE (T) 28°54'25"N, 82°27'52"W ±16ft ▲ 112
Interconnection with
Citrus County
Your Watermark - See Settings
07 Mar 2022, 10:42:54


Well #7
Your Watermark - See Settings
Beverly Hills utility
07 Mar 2022, 10:47:40
296°NW (T) 28°54'54"N, 82°27'50"W ±16ft ▲ 103ft
WELL #7
621-4335
WARNING
AUTHORIZED PERSONNEL ONLY


SW
W
NW
240
270
300
330
283°W (T) 28°54'54"N, 82°27'50"W ±16ft ▲ 97
Well #7
Your Watermark - See Settings
Beverly Hills utility
07 Mar 2022, 10:48:12


W
NW
N
270
300
330
0
306°NW (T) 28°54'54"N, 82°27'50"W ±16ft ▲ 99
Well #7
Your Watermark - See Settings
Beverly Hills utility
07 Mar 2022, 10:48:56

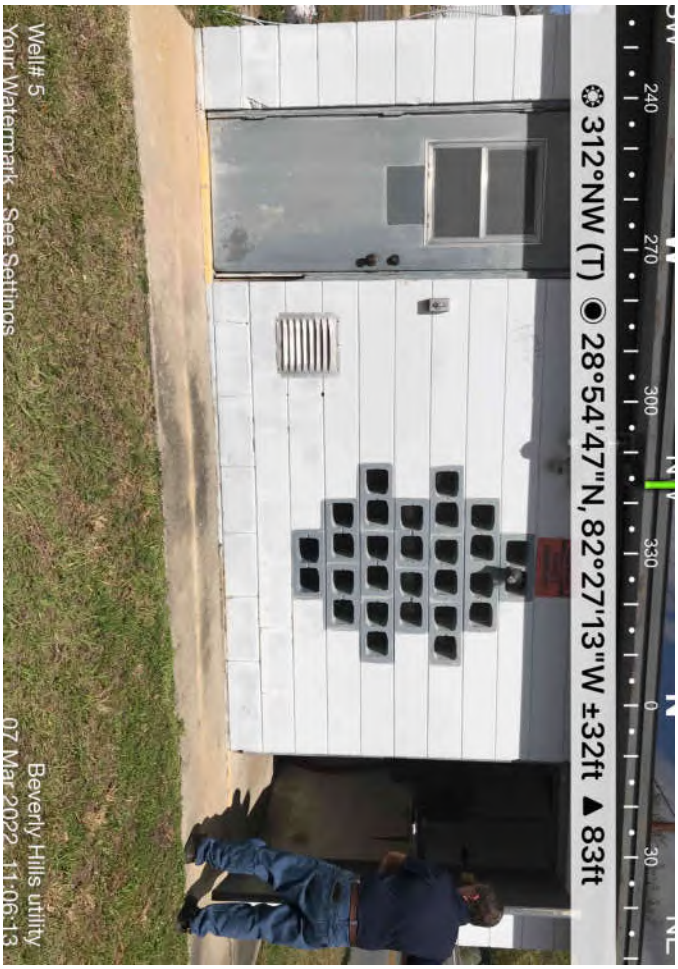

NW
N
NE
300
330
0
30
60
2°N (T) 28°54'54"N, 82°27'50"W ±16ft ▲ 100
Well #7
Your Watermark - See Settings
Beverly Hills utility
07 Mar 2022, 10:49:06


S
180
210
SW
240
W
270
230°SW (T) ◉ 28°54'54"N, 82°27'50"W ±16ft ▲ 100
Well #7
Your Watermark - See Settings
Beverly Hills utility
07 Mar 2022, 10:49:22


SW
240
W
270
300
NW
330
285°W (T) ◉ 28°54'54"N, 82°27'50"W ±16ft ▲ 102
WARNING
HIGH
VOLTAGE
Well #7 60 Hp
Your Watermark - See Settings
Beverly Hills utility
07 Mar 2022, 10:49:37


NE
30
60
E
90
120
SE
74°E (T) ◉ 28°54'54"N, 82°27'50"W ±32ft ▲ 102
Well #7 60 Hp
Your Watermark - See Settings
Beverly Hills utility
07 Mar 2022, 10:50:17


E
90
SE
120
150
S
180
210
155°SE (T) ◉ 28°54'34"N, 82°27'33"W ±16ft ▲ 151
South elevated tank
Your Watermark - See Settings
Beverly Hills utility
07 Mar 2022, 11:02:46


Well# 5
Your Watermark - See Settings
312°NW (T) 28°54'47"N, 82°27'13"W ±32ft ▲ 83ft
Beverly Hills utility
07 Mar 2022, 11:06:13


S
SW
W
180
210
240
270
232°SW (T) 28°54'47"N, 82°27'13"W ±16ft ▲ 91
Well# 5 50 Hp
Your Watermark - See Settings
Beverly Hills utility
07 Mar 2022, 11:06:57

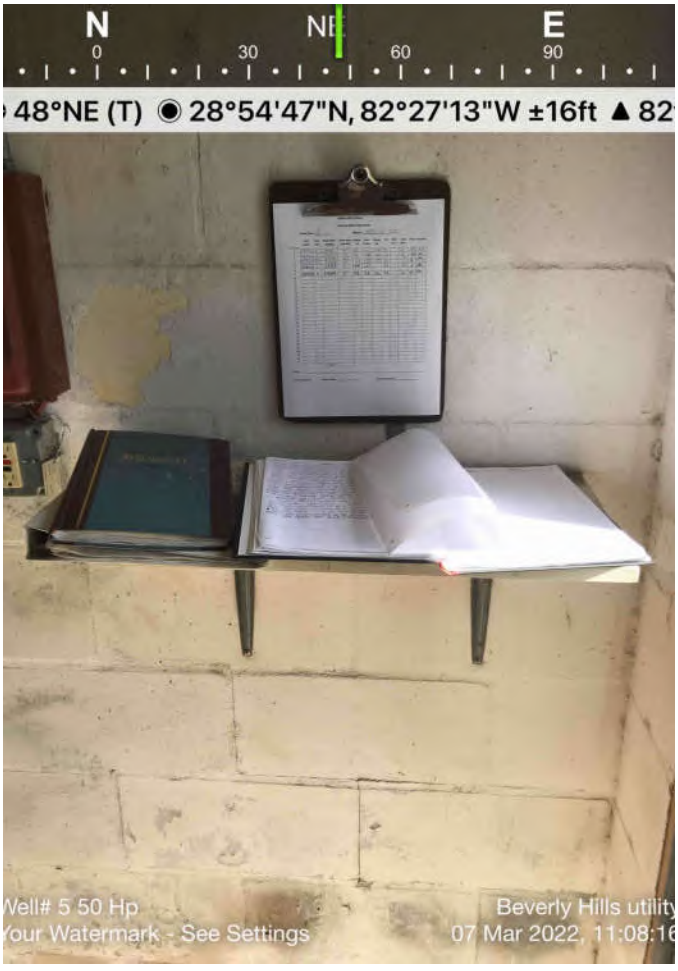

W
NW
N
270
300
330
0
319°NW (T) 28°54'47"N, 82°27'13"W ±16ft ▲ 92
Well# 5 50 Hp
Your Watermark - See Settings
Beverly Hills utility
07 Mar 2022, 11:07:19


NW
N
NE
300
330
30
60
0°N (T) 28°54'47"N, 82°27'13"W ±16ft ▲ 82
Well# 5 50 Hp
Your Watermark - See Settings
Beverly Hills utility
07 Mar 2022, 11:07:32


W NW N
270 300 0 30
329°NW (T) ◉ 28°54'47"N, 82°27'13"W ±16ft ▲ 82
Well# 5 50 Hp
Your Watermark - See Settings
Beverly Hills utility
07 Mar 2022, 11:07:38


SW W NW
210 240 270 300
254°W (T) ◉ 28°54'47"N, 82°27'13"W ±16ft ▲ 87
Free Chlorine
Well# 5 50 Hp
Your Watermark - See Settings
Beverly Hills utility
07 Mar 2022, 11:07:49


S SW W
180 210 240 270 300
240°SW (T) ◉ 28°54'47"N, 82°27'13"W ±16ft ▲ 87
Well# 5 50 Hp
Your Watermark - See Settings
Beverly Hills utility
07 Mar 2022, 11:07:56


N NE E
0 30 60 90
48°NE (T) ◉ 28°54'47"N, 82°27'13"W ±16ft ▲ 82
Well# 5 50 Hp
Your Watermark - See Settings
Beverly Hills utility
07 Mar 2022, 11:08:16


W NW N
270 300 330 0 30
332°NW (T) ◉ 28°54'59"N, 82°26'23"W ±16ft ▲ 114
Well #10 100 Hp
Your Watermark - See Settings
Beverly Hills utility
07 Mar 2022, 11:30:3


W NW N
270 300 330 0 30
333°NW (T) ◉ 28°54'59"N, 82°26'23"W ±16ft ▲ 118
150 GALLONS
DIESEL FUEL ONLY
Well #10 100KW generator
Your Watermark - See Settings
Beverly Hills utility
07 Mar 2022, 11:31:1


N NE E
0 30 60 90
48°NE (T) ◉ 28°54'59"N, 82°26'23"W ±16ft ▲ 110
Well #10
Your Watermark - See Settings
Beverly Hills utility
07 Mar 2022, 11:32:07


W NW N
270 300 330 0
316°NW (T) ◉ 28°54'59"N, 82°26'23"W ±16ft ▲ 111
Well #10
Your Watermark - See Settings
Beverly Hills utility
07 Mar 2022, 11:32:27


SW W NW
240 270 300 330
286°W (T) ◉ 28°54'59"N, 82°26'23"W ±16ft ▲ 117
Well #10
Your Watermark - See Settings
Beverly Hills utility
07 Mar 2022, 11:32:34


S SW W
180 210 240 270 300
238°SW (T) ◉ 28°54'59"N, 82°26'23"W ±16ft ▲ 123
Well #10
Your Watermark - See Settings
Beverly Hills utility
07 Mar 2022, 11:32:56


SW W NW
210 240 270 300 330
274°W (T) ◉ 28°54'59"N, 82°26'23"W ±16ft ▲ 112
Well #10
Your Watermark - See Settings
Beverly Hills utility


N NE
330 0 30 60
24°NE (T) ◉ 28°54'59"N, 82°26'23"W ±16ft ▲ 106
Well #10
Your Watermark - See Settings
Beverly Hills utility
07 Mar 2022, 11:33:40


Well #10
Your Watermark - See Settings
6°N (T) 28°54'59"N, 82°26'23"W ±16ft ▲ 103ft
Beverly Hills utility
07 Mar 2022, 11:34:18


E
SE
S
119°SE (T) 28°55'35"N, 82°27'11"W ±16ft ▲ 130
WELL#2
Well#2
Your Watermark - See Settings
Beverly Hills utility
07 Mar 2022, 12:07:33


E
SE
S
127°SE (T) 28°55'36"N, 82°27'10"W ±16ft ▲ 126
WELL#1
Well #1
Your Watermark - See Settings
Beverly Hills utility
07 Mar 2022, 12:08:14

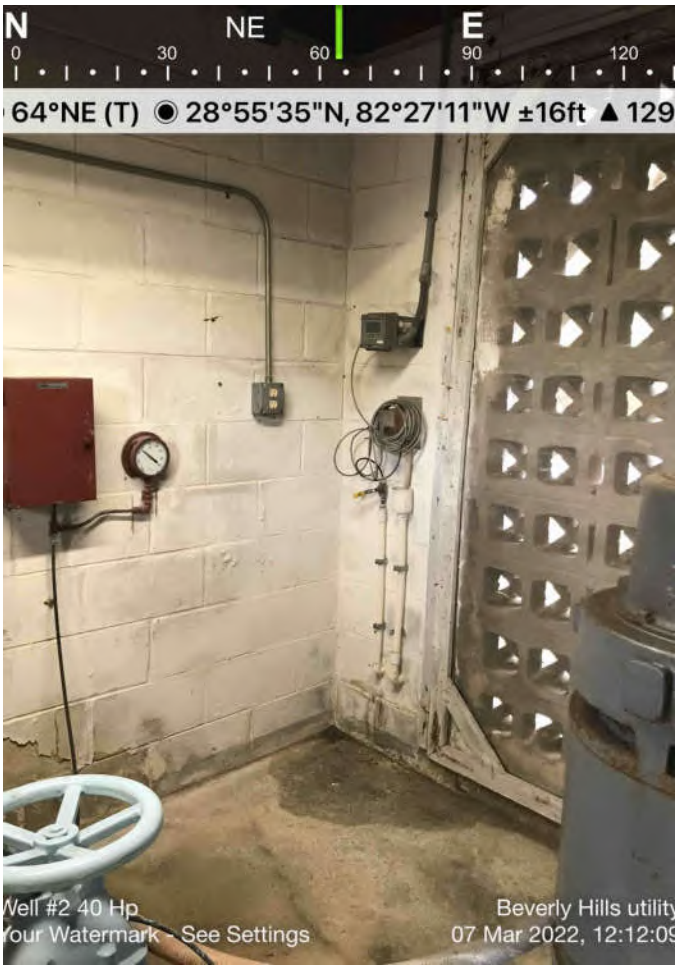

N
NE
E
65°NE (T) 28°55'35"N, 82°27'10"W ±16ft ▲ 128
Well #1
Your Watermark - See Settings
Beverly Hills utility
07 Mar 2022, 12:08:37


SW W NW
210 240 270 300 330
269°W (T) ◉ 28°55'35"N, 82°27'10"W ±16ft ▲131
Well #1 40 Hp
Your Watermark - See Settings
Beverly Hills utility
07 Mar 2022, 12:08:56


S SW W
180 210 240 270
223°SW (T) ◉ 28°55'35"N, 82°27'10"W ±16ft ▲130
Well #1 40 Hp
Your Watermark - See Settings
Beverly Hills utility
07 Mar 2022, 12:09:17


W NW N
270 300 330 0
314°NW (T) ◉ 28°55'35"N, 82°27'10"W ±16ft ▲130
Well #1 40 Hp
Your Watermark - See Settings
Beverly Hills utility
07 Mar 2022, 12:10:13


NE E SE
30 60 90 120
74°E (T) ◉ 28°55'35"N, 82°27'11"W ±16ft ▲130
Well #2 40 Hp
Your Watermark - See Settings
Beverly Hills utility
07 Mar 2022, 12:11:45


N NE E
0 30 60 90 120
64°NE (T) ◉ 28°55'35"N, 82°27'11"W ±16ft ▲ 129
Well #2 40 Hp
Your Watermark - See Settings
Beverly Hills utility
07 Mar 2022, 12:12:09

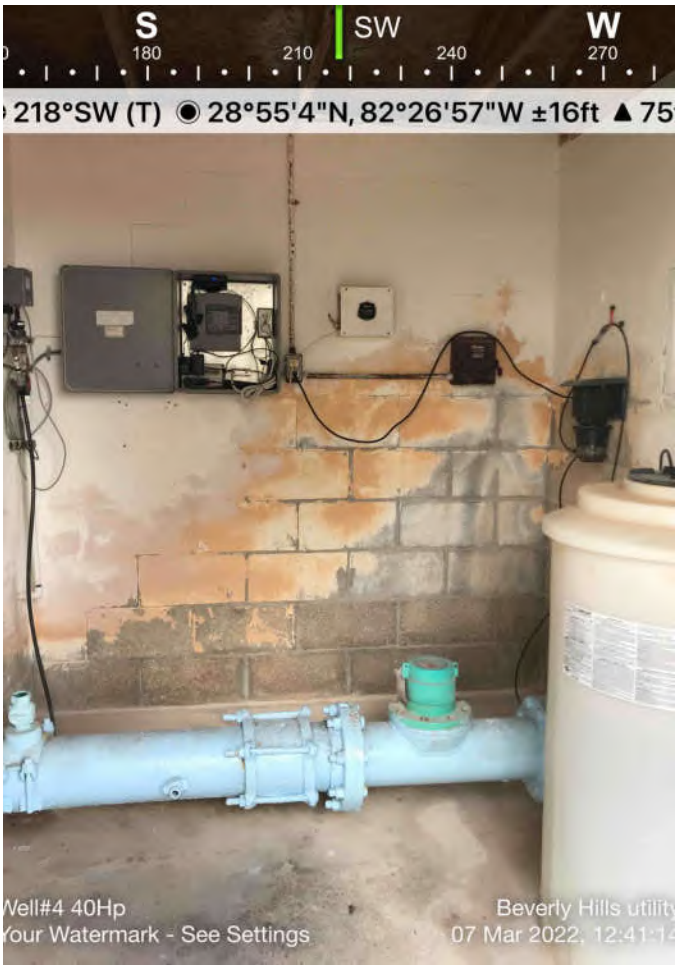

NW N NE
330 0 30 60
20°N (T) ◉ 28°55'35"N, 82°27'11"W ±16ft ▲ 130
KEEP OUT
Well #2 40 Hp
Your Watermark - See Settings
Beverly Hills utility
07 Mar 2022, 12:12:26


NE E SE
30 60 90 120 150
94°E (T) ◉ 28°55'35"N, 82°27'11"W ±16ft ▲ 131
Well #2 40 Hp
Your Watermark - See Settings
Beverly Hills utility
07 Mar 2022, 12:12:44


E SE S
90 120 150 180
138°SE (T) ◉ 28°55'4"N, 82°26'58"W ±32ft ▲ 109
ROLLING OAKS UTILITIES, INC.
WELL #4
EMERGENCY NUMBER 621-4335
WARNING
Well#4
Your Watermark - See Settings
Beverly Hills utility
07 Mar 2022, 12:40:09


SE
S
SW
150
180
210
240
200°S (T) ◉ 28°55'4"N, 82°26'57"W ±16ft ▲ 57
Well#4 40Hp
Your Watermark - See Settings
Beverly Hills utility
07 Mar 2022, 12:40:42


E
SE
S
90
120
150
180
210
152°SE (T) ◉ 28°55'4"N, 82°26'57"W ±383ft ▲ 109
Well#4 40Hp
Your Watermark - See Settings
Beverly Hills utility
07 Mar 2022, 12:40:58


S
SW
W
180
210
240
270
218°SW (T) ◉ 28°55'4"N, 82°26'57"W ±16ft ▲ 75
Well#4 40Hp
Your Watermark - See Settings
Beverly Hills utility
07 Mar 2022, 12:41:14

installed 3' or less from the main. From one end of the system to the other end is approximately two (2) miles.

ii. General Distribution Flow Description from Source:
All of the lines in the system are looped lines with the exception of one dead end line.

iii. Number And Location of Flush Hydrants/Devices:
The utility has 262 fire hydrants on the system and each hydrant has its own shut off valve installed in the front of hydrant. Six more hydrants are to be installed in the near future.

b. Recommended Repairs and Improvements Summary

i. Triage Repairs:

1. The distribution system appears to be in good shape, the systems water loss last year was 16%, considering the size, pipe footage and number of customers, this is not bad at all and speaks well of the integrity of the distribution system.

ii. Improvements and Other Repairs:

1. The system has 6,000 meters. Of these 6,000 meters, 3,600 are Neptune AMR meters, 1,200 are touch read meters, and 1,200 are manual read meters.
    a. Install approximately 2,400 automatic read meters
2. Replace all existing galvanized and asbestos cement water lines with new PVC water line. NOTE: Water line footages currently unknown and therefore no anticipated cost provided for this item.

4. Capital Estimate

TRIAGE REPAIRS					
Water System Improvements					
NARUC Category	**Description**	**Unit**	**Quantity**	**Unit Price**	**Total Price**
General Plant	SCADA System @ Wells	EA	7	$20,000.00	$ 140,000.00
General Plant	Replacement of Security Fencing	LF	450	$50.00	$ 22,500.00
General Plant	Repair/Painting of CMU Buildings	EA	2	$7,500.00	$ 15,000.00
General Plant	Electrical Work (Well #2 Site)	LS	1	$20,000.00	$ 20,000.00
TOTAL TRIAGE REPAIRS CAPITAL ESTIMATE					**$ 197,500.00**

IMPROVEMENTS AND OTHER REPAIRS					
Water System Improvements					
NARUC Category	**Description**	**Unit**	**Quantity**	**Unit Price**	**Total Price**
Water Treatment & Pumping	Chlorine Residual Monitoring Equipment	LS	8	$7,500.00	$ 60,000.00
Services, Meters & Fire Hydrants	AMR Meters	EA	2,400	$500.00	$ 1,200,000.00
TOTAL IMPROVEMENTS AND OTHER REPAIRS CAPITAL ESTIMATE					**$ 1,260,000.00**

Valbridge
PROPERTY ADVISORS

Appraisal Report

Rollings Oaks Utilities
Rose Ave
Beverly Hills, Citrus County, Florida 34465

Report Date: 08-22-2022

FOR:

Central States Water Resources
Mr. Todd Thomas
Vice-President
1650 Des Peres Road, Suite 303
Des Peres, Missouri 63074

Valbridge Property Advisors | New Orleans

2030 Dickory Avenue, Suite 200
New Orleans, LA 70123
504.541.5100 phone
504.541.5107 fax
valbridge.com

Valbridge File Number:
LA01-22-0324-000

2030 Dickory Avenue, Suite 200
New Orleans, LA 70123
504.541.5100 phone
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08-22-2022

Arthur L. Schwertz MAI
504.541.5101
aschwertz@valbridge.com

Mr. Todd Thomas
Vice-President
Central States Water Resources
1650 Des Peres Road, Suite 303
Des Peres, Missouri 63074

RE: Appraisal Report
Rollings Oaks Utilities
Rose Ave
Beverly Hills, Citrus County, Florida 34465

Dear Mr. Thomas:

In accordance with your request, we have performed an appraisal of the above referenced property. This appraisal report sets forth the pertinent data gathered, the techniques employed, and the reasoning leading to our value opinions. This letter of transmittal does not constitute an appraisal report and the rationale behind the value opinion(s) reported cannot be adequately understood without the accompanying appraisal report.

The subject property, as referenced above, is located in Rolling Oaks Subdivision and includes tax parcel numbers 18E18S120050-00F0, 1343400, 110082-01880-0010, 13-31000,13-33000, 110080-01790-0100, 110070-01650-0101, 110065-01120-0200, 110064-1100-0171, 110064-01210-0115, 110062-01530-0010, 15-12000-0070, 110060-01040-0360, 110050-00640-0080, 14-41000, 1100200-00150-00C0. The subject property consists of a total of 111.44-acres or 4,854,326-square-feet. Of the total, 83.74 acres are easements and 27.70 acres are fee simple area. The subject is the water system for Rolling Oaks Subdivision.

We developed our analyses, opinions, and conclusions and prepared this report in conformity with the Uniform Standards of Professional Appraisal Practice (USPAP) of the Appraisal Foundation; the Code of Professional Ethics and Standards of Professional Appraisal Practice of the Appraisal Institute; and the requirements of our client as we understand them.

The client in this assignment is Central States Water Resources and the intended user of this report is Central State Water Resources and no others. The sole intended use is for regulatory filing. The value

opinions reported herein are subject to the definitions, assumptions, limiting conditions, and certifications contained in this report.

The findings and conclusions are further contingent upon the following extraordinary assumptions and/or hypothetical conditions, the use of which might have affected the assignment results:

Extraordinary Assumptions:

- The appraiser was unable to locate any documents definitively specifying the location or width of the utility easements. However, a visual inspection of the neighborhood indicates the presence of water and sewer lines near the street frontage and it has been assumed for purposes of this analysis that they lie within a 10' utility easement.

Hypothetical Conditions:

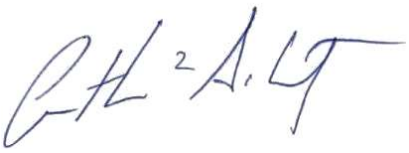
- This appraisal is predicated on the hypothetical condition that the property is unimproved and ready for development.

Based on the analysis contained in the following report, our value conclusions are summarized as follows:

Value Conclusions

Component	As Is	As Is
Value Type	Market Value	Market Value
Property Rights Appraised	Easement	Fee Simple
Effective Date of Value	August 22, 2022	August 22, 2022
Value Conclusion	**$2,725,000**	**$2,000,000**

Respectfully submitted,
Valbridge Property Advisors | New Orleans



Arthur L. Schwertz, MAI
Senior Managing Director
Florida Certified General
Real Estate Appraiser RZ4249

Table of Contents

Summary of Salient Facts

Property Identification

Property Name	Rollings Oaks Utilities
Property Address	Rose Ave Beverly Hills, Citrus County, Florida 34465
Latitude & Longitude	28.919621, -82.455007
Tax Parcel Number	18E18S120050-00F0, 1343400, 110082-01880-0010, 13-
Property Owner	Rolling Oaks Utilities

Site

Zoning	Planned Residential Development, Low Density, General Commercial, Heavy Industrial (PDR, LDR-MH, GNC, IND, REC)
FEMA Flood Map No.	12017C0212D
Flood Zone	X,AE
Easement Land Area	3,647,714 square feet
Fee Simple Land Area	1,206,612 square feet

Valuation Opinions

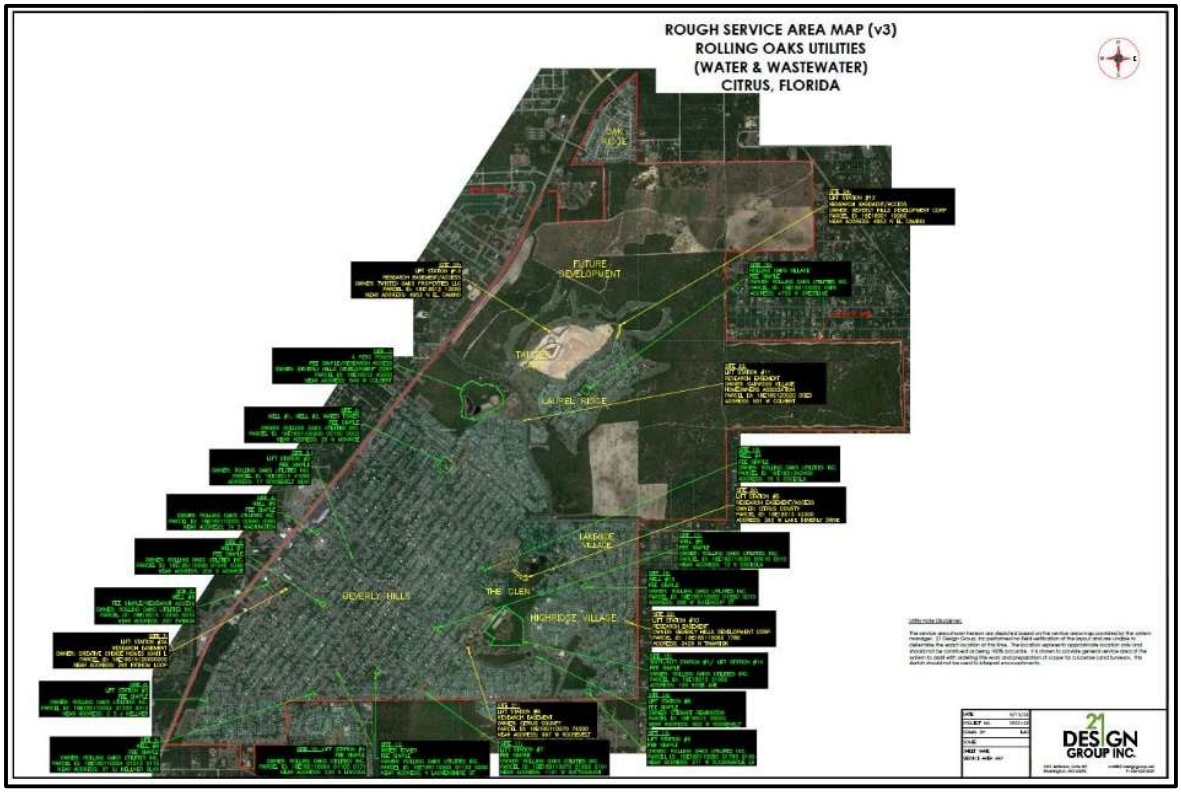
Highest & Best Use - As Vacant	Residential and commercial
Reasonable Exposure Time	Six months or less
Reasonable Marketing Time	Six months or less

Value Conclusions

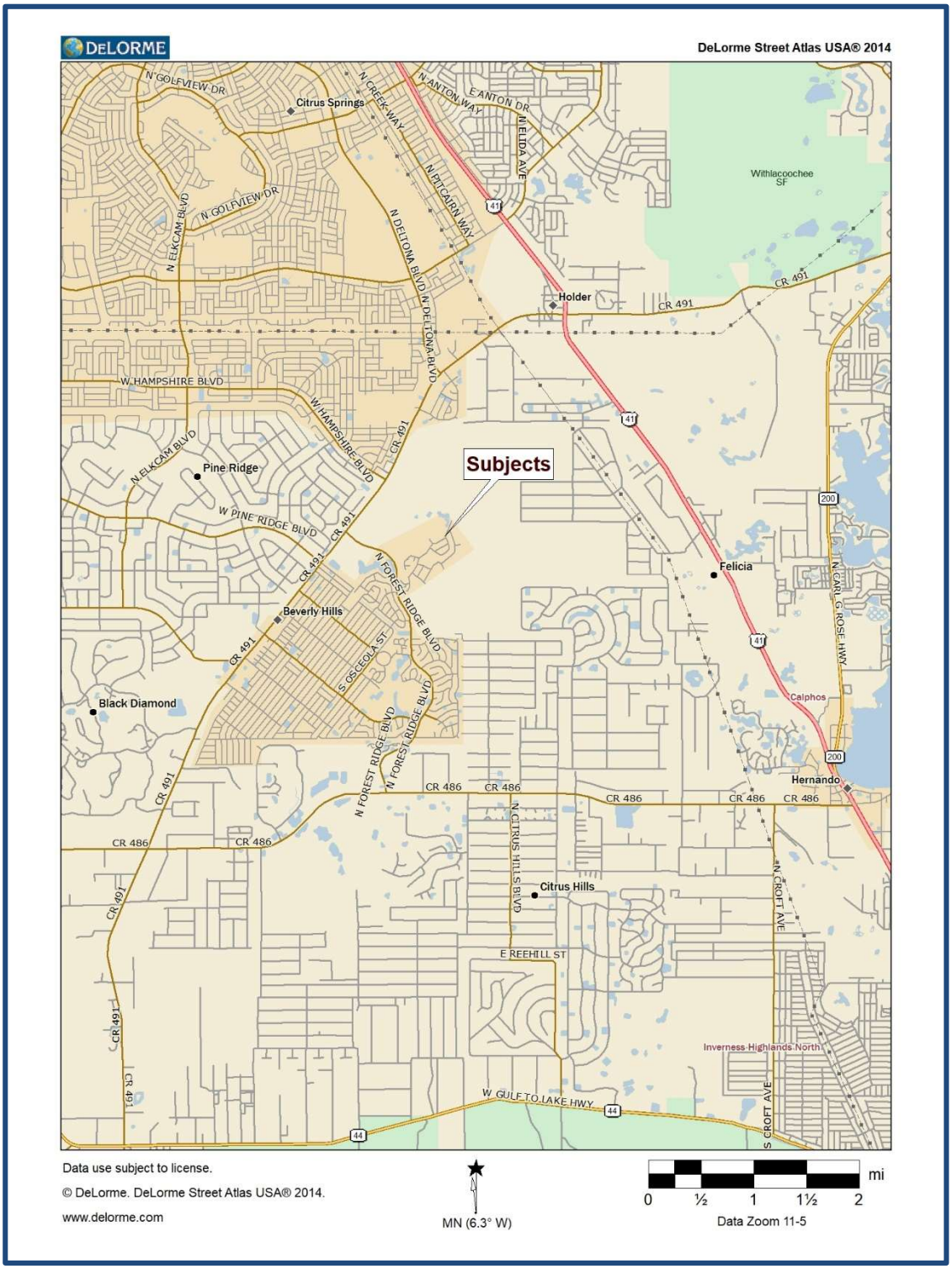
Component	As Is	As Is
Value Type	Market Value	Market Value
Property Rights Appraised	Easement	Fee Simple
Effective Date of Value	August 22, 2022	August 22, 2022
Value Conclusion	**$2,725,000**	**$2,000,000**

Aerial and Front Views

AERIAL VIEW



Location Map



Introduction

Client and Intended Users of the Appraisal

The client in this assignment is Central States Water Resources and the sole intended user of this report is Central State Water Resources. Under no circumstances shall any of the following parties be entitled to use or rely on the appraisal or this appraisal report:

i. The borrower(s) on any loans or financing relating to or secured by the subject property,

ii. Any guarantor(s) of such loans or financing; or

iii. Principals, shareholders, investors, members or partners in such borrower(s) or guarantors.

Intended Use of the Appraisal

The sole intended use of this report is for regulatory filing.

Real Estate Identification

The subject property is located at Rose Ave, Beverly Hills, Citrus County, Florida 34465. The subject property is further identified by the tax parcel number 18E18S120050-00F0, 1343400, 110082-01880-0010, 13-31000,13-33000, 110080-01790-0100, 110070-01650-0101, 110065-01120-0200, 110064-1100-0171, 110064-01210-0115, 110062-01530-0010, 15-12000-0070, 110060-01040-0360, 110050-00640-0080, 14-41000, 1100200-00150-00C0.

Legal Description

Lots 1,2,3,4,5,6 and 7, Beverly Hills Unit 2 Subdivision, Section 11, Township 18 South, Range 18 East, Citrus County, Beverly Hills, Florida
Lot 1, Block 91, Beverly Hills Unit 5 Subdivision, Section 14, Township 18 South, Range 18 East, Citrus County, Beverly Hills, Florida
Lot 36, Block 104, Beverly Hills Unit 6-1 Subdivision, Section 14, Township 18 South, Range 18 East, Citrus County, Beverly Hills, Florida
Lot 1, Block 2, Beverly Hills Unit 6-2 Subdivision, Section 15, Township 18 South, Range 18 East, Citrus County, Beverly Hills, Florida
Potion of Section 13, Township 18 South, Range 18 East, Citrus County, Beverly Hills, Florida
Lot 8, Block 64, Beverly Hills Unit 5, Section 14, Township 18 south, Range 18 East, Citrus County, Beverly Hills, Florida
Lot 20, Block 112, Beverly Hills Unit 6-3, Subdivision, Section 14, Township 18 South, Range 18 East, Citrus County, Beverly Hills, Florida
Portion of Lot 11, Block 121, Beverly Hills Unit 6-3 Subdivision, Section 14, Township 18 South, Range 18 East, Citrus County, Beverly Hills, Florida
Well Site 8 in Block 667, Section 15, Township 18 South, Range 18 East, Citrus County, Beverly Hills, Florida
CL 10 Lift 8T8 in Block 677, Section 14, Township 18 South, Range 18 East, Citrus County, Beverly Hills , Florida
PCL11 Lift STA4-A in Block 677, Beverly Hills Unit 6-3B, Section 14, Township 18 South, Range 18 East, Citrus County, Beverly Hills, Florida

Lot 10,Beverly Hills Unit 8, Phase 1, Section 13, Township 18 South, Range 18 East, Citrus County, Beverly Hills, Florida
Lot 1, Block 188, Beverly Hills Unit 8, Phase 2, Section 13, Township 18 South, Range 18 East, Citrus County, Beverly Hills, Florida
Lift Station#2, Lot 1, Block 75, Beverly Hills Unit 5, Section 14, Township 18 South, Range 18 East, Citrus County, Beverly Hills, Florida
Tract F, Laurel Ridge Number, Section 12, Township 18 South, Range 18 East, Citrus County, Beverly Hills, Florida

Use of Real Estate as of the Effective Date of Value

As of the effective date of value, the subject was a utility property.

Use of Real Estate as Reflected in this Appraisal

The opinion of value for the subject as is reflects use as a utility property.

Ownership of the Property

According to Public Records, title to the subject property is vested in Rolling Oaks Utilities.

History of the Property

Ownership of the subject property has not changed within the past three years.

Analysis of Listings/Offers/Contracts

The subject is not currently listed for sale or under contract for sale..

Type and Definition of Value

The appraisal problem is to develop an opinion of the market value of the subject property. "Market Value," as used in this appraisal, is defined as "the most probable price that a property should bring in a competitive and open market under all conditions requisite to a fair sale, the buyer and seller each acting prudently and knowledgeably, and assuming the price is not affected by undue stimulus." Implicit in this definition is the consummation of a sale as of a specified date and the passing of title from seller to buyer under conditions whereby:

- *Buyer and seller are typically motivated.*
- *Both parties are well informed or well advised, each acting in what they consider their own best interests;*
- *A reasonable time is allowed for exposure in the open market;*
- *Payment is made in terms of cash in U.S. dollars or in terms of financial arrangements comparable thereto; and*
- *The price represents the normal consideration for the property sold unaffected by special or creative financing or sale concessions granted by anyone associated with the sale."1*

[1] Source: Code of Federal Regulations, Title 12, Banks and Banking, Part 722.2-Definitions

The value conclusions apply to the value of the subject property under the market conditions presumed on the effective date of value. Please refer to the Glossary in the Addenda section for additional definitions of terms used in this report.

Valuation Scenarios, Property Rights Appraised, and Effective Dates of Value

Per the scope of our assignment we developed opinions of value for the subject property under the following scenarios of value:

Valuation Scenario	Effective Date of Value
As Is Market Value of the Easement Interest	August 22, 2022
As Is Market Value of the Fee Simple Interest	August 22, 2022

Date of Report

The date of this report is 08-22-2022.

List of Items Requested but Not Provided

- All information requested has been provided

Assumptions and Conditions of the Appraisal

This appraisal assignment and the opinions reported herein are subject to the General Assumptions and Limiting Conditions contained in the report and the following extraordinary assumptions and/or hypothetical conditions, the use of which might have affected the assignment results.

Extraordinary Assumptions

- The appraiser was unable to locate any documents definitively specifying the location or width of the utility easements. However, a visual inspection of the neighborhood indicates the presence of water and sewer lines near the street frontage and it has been assumed for purposes of this analysis that they lie within a 10' utility easement.

Hypothetical Conditions

- This appraisal is predicated on the hypothetical condition that the property is unimproved and ready for development.

Scope of Work

The elements addressed in the Scope of Work are (1) the extent to which the subject property is identified, (2) the extent to which the subject property is inspected, (3) the type and extent of data researched, (4) the type and extent of analysis applied, (5) the type of appraisal report prepared, and (6) the inclusion or exclusion of items of non-realty in the development of the value opinion. These items are discussed as below.

Extent to Which the Property Was Identified

The three components of the property identification are summarized as follows:

- Legal Characteristics - The subject was legally identified via public records.
- Economic Characteristics - Economic characteristics of the subject property were identified via information provided by the client, public records, market surveys, discussions with market participants, and the files of Valbridge Property Advisors, as well as a comparison to properties with similar locational and physical characteristics.
- Physical Characteristics - The subject was physically identified via a general inspection of the property by the appraiser.

Extent to Which the Property Was Inspected

We did not perform an appraisal inspection of the property.

Type and Extent of Data Researched

We researched and analyzed: (1) market area data, (2) property-specific market data, (3) zoning and land-use data, and (4) current data on comparable listings and transactions. We also interviewed people familiar with the subject market/property type.

Type and Extent of Analysis Applied (Valuation Methodology)

We observed surrounding land use trends, the condition of any improvements, demand for the subject property, and relevant legal limitations in concluding a highest and best use. We then valued the subject based on that highest and best use conclusion.

Appraisers develop an opinion of property value with specific appraisal procedures that reflect three distinct methods of data analysis: the Cost Approach, Sales Comparison Approach, and Income Capitalization Approach. One or more of these approaches are used in all estimations of value.

- Sales Comparison Approach - In the Sales Comparison Approach, value is indicated by recent sales and/or listings of comparable properties in the market, with the appraiser analyzing the impact of material differences in both economic and physical elements between the subject and the comparables.
- Direct Capitalization: Land Residual Method - The Land Residual Methodology involves estimating the residual net income to the land by deducting from total potential income the portion attributable to the improvements, assuming development of the site at its highest and best use. The residual income is capitalized at an appropriate rate, resulting in an indication of land value.

- Direct Capitalization: Ground Rent Capitalization – A market derived capitalization rate is applied to the net income resulting from a ground lease. This can represent the leased fee or fee simple interest, depending on whether the income potential is reflective of a lease in place or market rental rates.
- Yield Capitalization: Subdivision Development Method – Also known as Discounted Cash Flow Analysis (DCF), the methodology is most appropriate for land having multiple lot development in the near term as the highest and best use. The current site value is represented by discounting the anticipated cash flow to a present value, taking into consideration all necessary costs of development, maintenance, administration, and sales throughout the absorption period.

All of these approaches to value were considered. We assessed the availability of data and applicability of each approach to value within the context of the characteristics of the subject property and the needs and requirements of the client. Based on this assessment, we relied upon the Sales Comparison Approach. Further discussion of the extent of our analysis and the methodology of each approach is provided later in the respective valuation sections.

Appraisal Conformity and Report Type

We developed our analyses, opinions, and conclusions and prepared this report in conformity with the Uniform Standards of Professional Appraisal Practice (USPAP) of the Appraisal Foundation; the Code of Professional Ethics and Standards of Professional Appraisal Practice of the Appraisal Institute; and the requirements of our client as we understand them. This is an Appraisal Report as defined by the Uniform Standards of Professional Appraisal Practice under Standards Rule 2-2a.

Personal Property/FF&E

All items of non-realty are excluded from this analysis. The opinion of market value developed herein is reflective of real estate only.

City and Neighborhood Analysis

NEIGHBORHOOD MAP

Overview

The subject is located in Beverly Hills in Citrus County, Florida. The area of Beverly Hills is characterized by being a highly developed suburban area.

Neighborhood Location and Boundaries

The subject neighborhood is located in Beverly Hills. The area is suburban in nature.

The neighborhood is bounded by FL-40 to the north, US-41 to the east, FL-44 to the south, and US-98 to the west.

Transportation Access

Within the immediate area of the subject property, transportation access helps define the character of its development. Major travel and commuter routes within the area of the subject property include FL-486 and Lecanto Highway. Access to the area is considered good.

Neighborhood Land Use

The subject neighborhood is located in an area with primarily residential land uses. An approximate breakdown of the development in the area is as follows:

LAND USES

Developed	70%
Residential	*65%*
Retail	*20%*
Office	*10%*
Industrial	*5%*
Vacant	30%
Total	**100%**

Land Use Trends

The neighborhood is experiencing a change in land use with single family residential developments.

Demographics

The following table depicts the area demographics in Beverly Hills within a one-, three-, and five-mile radius from the subject.

Neighborhood Demographics

Radius (Miles)	1 Mile	3 Mile	5 Mile
Population Summary			
2010 Population	7,226	21,932	38,026
2020 Population Estimate	8,426	26,514	45,296
2025 Population Projection	8,525	27,210	46,971
Annual % Change (2020 - 2025)	0.2%	0.5%	0.7%
Housing Unit Summary			
2010 Housing Units	4,238	12,271	20,050
% Owner Occupied	58.9%	67.4%	70.6%
% Renter Occupied	23.9%	16.4%	14.3%
2020 Housing Units	4,380	13,716	22,431
% Owner Occupied	58.4%	71.3%	75.3%
% Renter Occupied	31.7%	18.0%	14.2%
2025 Housing Units	4,442	14,067	23,198
% Owner Occupied	59.0%	72.1%	76.2%
% Renter Occupied	31.0%	17.6%	13.8%
Annual % Change (2020 - 2025)	0.3%	0.5%	0.7%
Income Summary			
2020 Median Household Income Estimate	$32,892	$56,755	$59,483
2025 Median Household Income Projection	$37,046	$67,395	$69,876
Annual % Change	2.4%	3.5%	3.3%
2020 Per Capita Income Estimate	$21,617	$39,171	$38,441
2025 Per Capita Income Projection	$25,808	$46,769	$45,947
Annual % Change	3.6%	3.6%	3.6%

Source: ESRI (ArcGIS) *(Lat: 28.919621, Lon: -82.455007)*

Within a three-mile radius, the reported population is 26,514 with a projected growth rate of approximately 0.5% annually. There are 13,716 housing units within that three-mile radius. The growth rate is expected to be 0.5% annually. Most of the housing is owner-occupied. Our research indicates that property values in the area are increasing.

Within a three-mile radius, the median household income is **$**56,755. Looking ahead, annual household income growth is projected at **3.5**% per year. The average income figures suggest that the inhabitants are within the middle income brackets.

Nuisances & External Obsolescence

Neighborhood properties have adequate levels of maintenance. No adverse or unfavorable factors were observed.

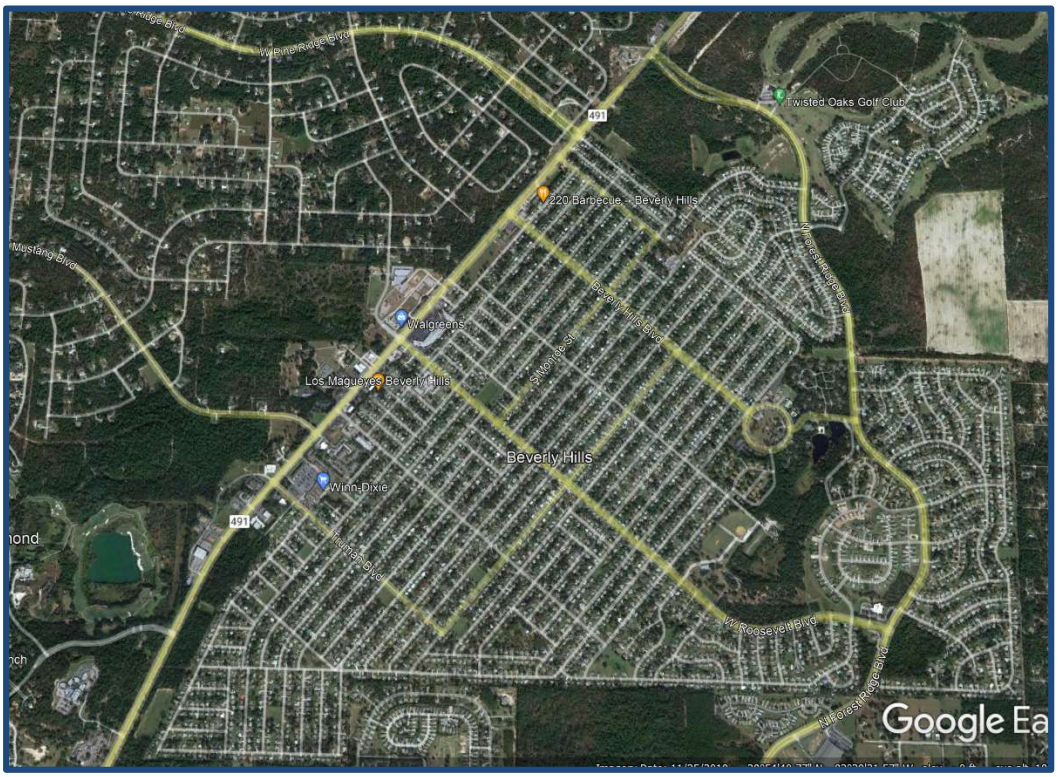
Neighborhood Life Cycle

Most neighborhoods are classified as being in four stages: **growth**, **stability**, **decline**, and **renewal**. Overall, the subject neighborhood is in the stable stage of its life cycle.

Immediate Area Uses

The below aerial photo exhibits the uses located in the subject's immediate vicinity.

IMMEDIATE AREA USES



Source: Google Maps

Uses in the vicinity of the subject are primarily residential in nature. Recognized uses in the immediate area of the subject include single family housing, multi family housing, golf courses, grocery stores, drug stores, restaurants and other retail uses. As shown above, the density of uses in the area is relatively high.

Analysis and Conclusions

The neighborhood is characterized by being a suburban area providing housing, shopping and entertainment.

Site Description

The subject site is located in Rolling Oaks Subdivision. The characteristics of the site are summarized as follows:

Site Characteristics

Gross Land Area:	111.44 Acres or 4,854,326 SF
Fee Simple Land Area:	27.70 Acres or 1,206,612 SF
Easement Land Area:	83.74 Acres or 3,647,714
Shape:	Irregular
Topography:	Level
Drainage:	Adequate
Utilities:	All are available

Flood Zone Data

Flood Map Panel/Number:	12017C0212D
Flood Map Date:	09-26-2014
Portion in Flood Hazard Area:	100.00%
Flood Zone:	X,AE
	Flood Zone X is usually described as an area of minimal flood hazard.
	Flood Zone AE is defined as a Special Flood Hazard Area (SFHA) subject to inundation (flooding) by the 1% annual chance flood (100year flood), also known as the base flood.

Adjacent Land Uses

North:	Residential
South:	Residential
East:	Residential
West:	Residential

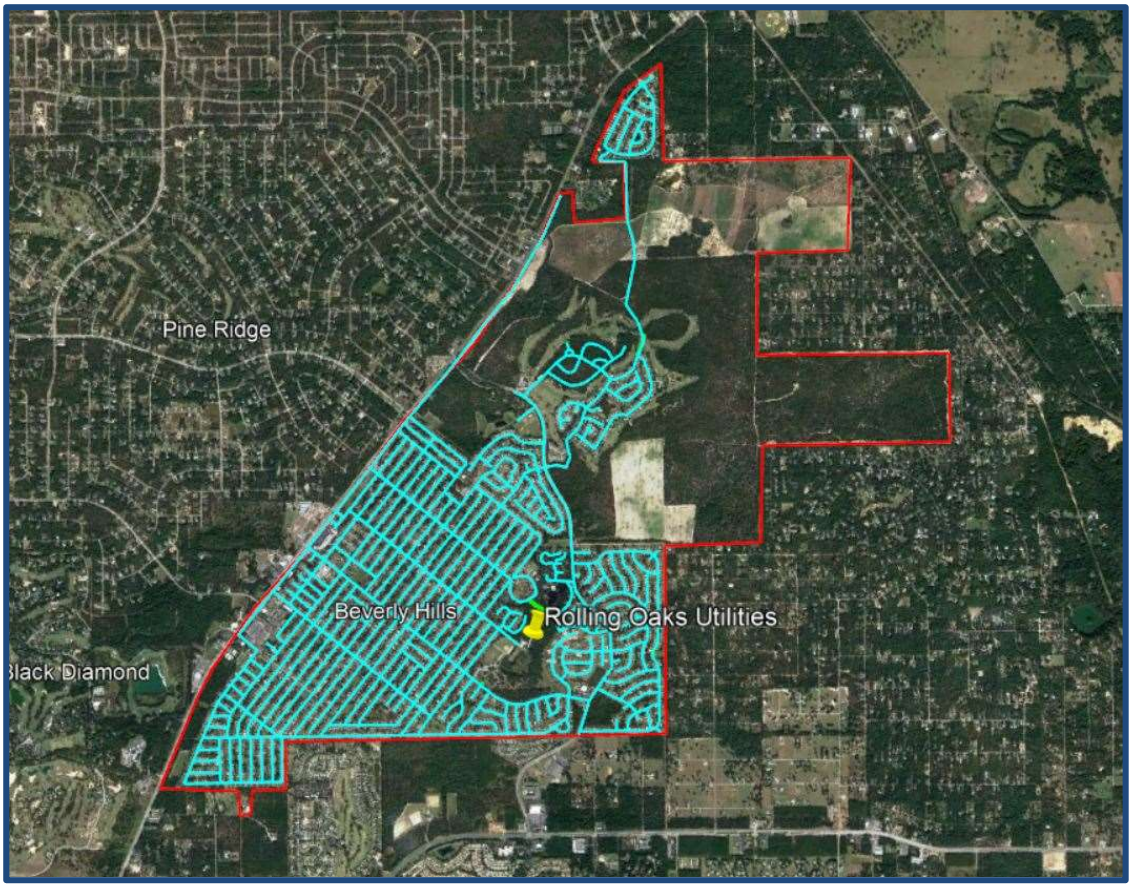
Zoning Designation

Zoning Jurisdiction:	Citrus County
Zoning Classification:	PDR, LDR-MH, GNC, IND, REC, Planned Residential Development, Low Density, General Commercial, Heavy Industrial
General Plan Designation:	Residential, commercial industrial, recreational
Permitted Uses:	Dwelling, retail, warehouses
Zoning Comments:	2408. PLANNED RESIDENTIAL DEVELOPMENT DISTRICT (PDR) The primary land use within each of the developments is single family residential; however, other uses are allowed. Other permitted land uses include multifamily residential, public/semi-public, recreational, commercial, and limited industrial. PDRs illustrated on the GFLUM have been approved via the Planned Development process, and are tied to a master development plan which details land uses, acreage, and distribution of uses. This district is limited to commercial activity and activities of similar impact or consistent with commercial activity. No new GNC shall be allowed in the Coastal, Lakes, and River region.

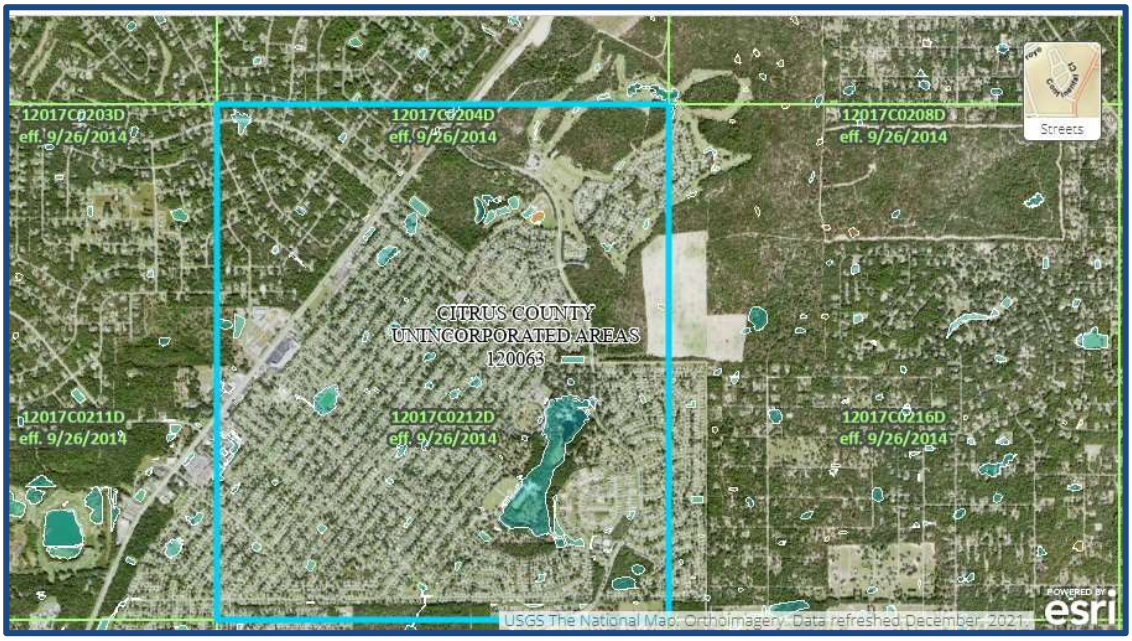
Analysis/Comments on Site

The subject is the water system for Rolling Oaks Subdivision. It consists of 83.74 acres of easements and 27.70 acres of fee simple area.

SERVICE AREA MAP



FLOOD MAP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CITRUS COUNTY
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eff. 9/26/2014
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eff. 9/26/2014
Streets
USGS The National Map: Orthoimagery. Data refreshed December, 2021.
esri

Subject Photographs

Site Photos

Site Photos

Site Photos

Site Photos

Highest and Best Use

The Highest and Best Use of a property is the use that is legally permissible, physically possible, and financially feasible which results in the highest value. An opinion of the highest and best use results from consideration of the criteria noted above under the market conditions or likely conditions as of the effective date of value. Determination of highest and best use results from the judgment and analytical skills of the appraiser. It represents an opinion, not a fact. In appraisal practice, the concept of highest and best use represents the premise upon which value is based.

Analysis of Highest and Best Use As Though Vacant

The primary determinants of the highest and best use of the property As Though Vacant are the issues of (1) Legal permissibility, (2) Physical possibility, (3) Financial feasibility, and (4) Maximum productivity.

Legally Permissible

The subject site is zoned PDR, LDR-MH, GNC, IND, REC, Planned Residential Development, Low Density, General Commercial, Heavy Industrial which controls the general nature of permissible uses but is appropriate for the location and physical elements of the subject property, providing for a consistency of use with the general neighborhood. The location of the subject property is appropriate for the uses allowed, as noted previously, and a change in zoning is unlikely. There are no known easements, encroachments, covenants or other use restrictions that would unduly limit or impede development.

Physically Possible

The physical attributes allow for a number of potential uses. Elements such as size, shape, availability of utilities, known hazards (flood, environmental, etc.), and other potential influences are described in the Site Description and have been considered. There are no items of a physical nature which would adversely impact development with the legal permitted uses.

Financially Feasible

The probable use of the site for residential and commercial along the highway frontage which conforms to the pattern of land use in the market area. A review of published yield, rental and occupancy rates suggest that there is a balanced supply and demand is sufficient to support construction costs and ensure timely absorption of additional inventory in this market. Therefore, near-term speculative development of the subject site is financially feasible.

Maximally Productive

Among the financially feasible uses, the use that results in the highest value (the maximally productive use) is the highest and best use. Considering these factors, the maximally productive use as though vacant is for residential and commercial use.

Conclusion of Highest and Best Use As Though Vacant

The conclusion of the highest and best use As Though Vacant is for residential and commercial use.

Most Probable Buyer

As of the date of value, the most probable buyer of the subject property is an owner user.

Land Valuation

Methodology

Site Value is most often estimated using the sales comparison approach. This approach develops an indication of market value by analyzing closed sales, listings, or pending sales of properties similar to the subject, focusing on the difference between the subject and the comparables using all appropriate elements of comparison. This approach is based on the principles of supply and demand, balance, externalities, and substitution, or the premise that a buyer would pay no more for a specific property than the cost of obtaining a property with the same quality, utility, and perceived benefits of ownership.

The process of developing the sales comparison approach consists of the following analyses: (1) researching and verifying transactional data, (2) selecting relevant units of comparison, (3) analyzing and adjusting the comparable sales for differences in various elements of comparison, and (4) reconciling the adjusted sales into a value indication for the subject site.

Unit of Comparison

The unit of comparison depends on land use economics and how buyers and sellers use the property. The unit of comparison in this analysis is per usable square foot.

Elements of Comparison

Elements of comparison are the characteristics or attributes of properties and transactions that cause the prices of real estate to vary. The primary elements of comparison considered in sales comparison analysis are as follows: (1) property rights conveyed, (2) financing terms, (3) conditions of sale, (4) expenditures made immediately after purchase, (5) market conditions, (6) location and (7) physical characteristics.

Comparable Sales Data

To obtain and verify comparable sales of vacant land properties, we conducted a search of public records, field surveys, interviews with knowledgeable real estate professionals in the area, and a review of our internal database.

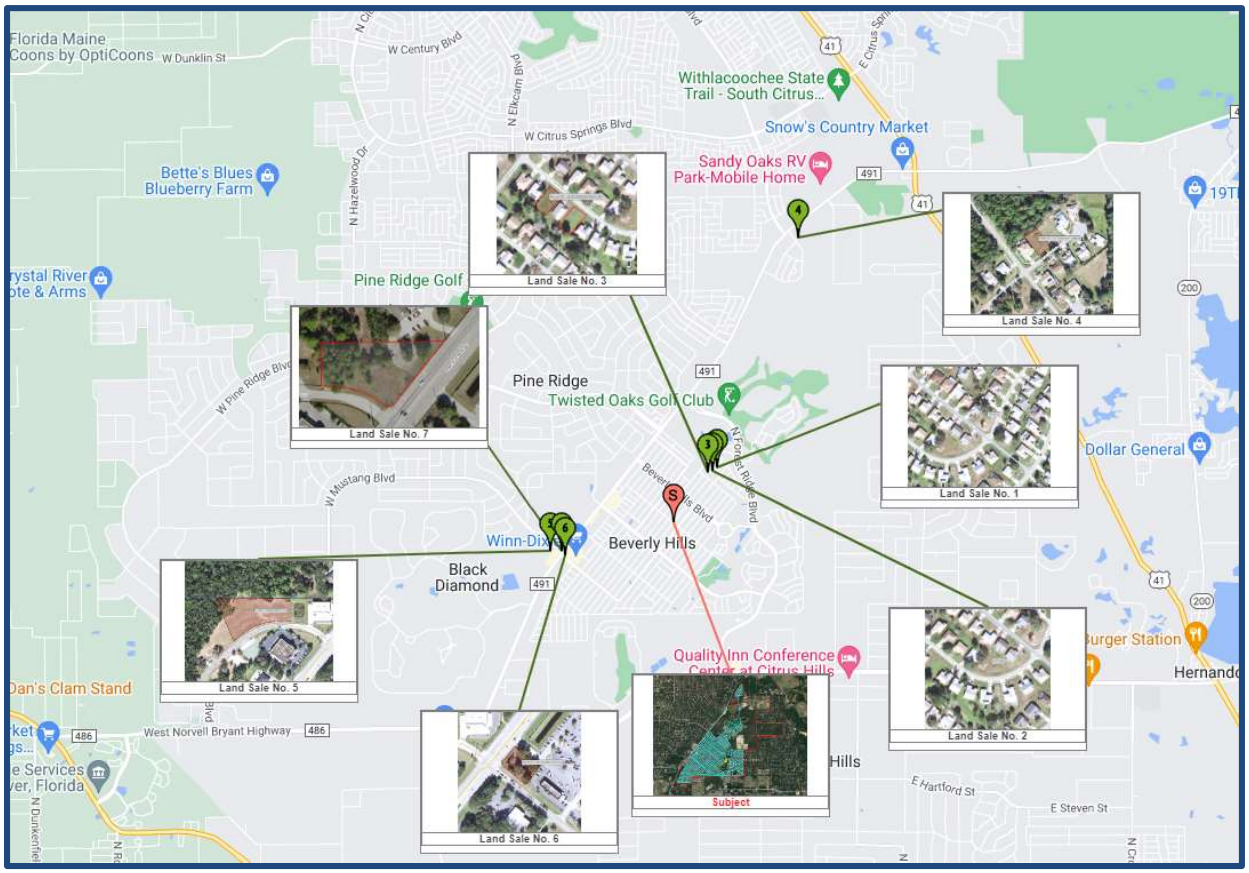
We included seven sales in our analysis, as these sales were judged to be the most comparable to develop an indication of market value for the subject property.

The following is a table summarizing each sale comparable and a map illustrating the location of each in relation to the subject.

Land Sales Summary

	Sale # 1	Sale # 2	Sale # 3	Sale # 4	Sale # 5	Sale # 6	Sale # 7
Sale ID	1607894	1607896	1607892	1607899	1607902	1607904	1400880
Property Name	Residential Lot	Residential Lot	Residential Lot	Residential Lot	Commercial Land	Commercial Lot	1.57 acres; Commercial Lot
Sale Status	Closed	Closed	Closed	Closed	Closed	Closed	Recorded
Location	825 W Gleason Place Beverly Hills, Florida	4350 N Bacall Loop Beverly Hills, Florida	4325 N Bacall Loop Beverly Hills, Florida	6428 N Misty Oak Terrace Beverly Hills, Florida	2349 W Coast Path Beverly Hills, Florida	3511 n Lecanto Highway Beverly Hills, Florida	2301 W Coast Path Beverly Hills, Florida
Tax ID	2574020	2573881	2573775	2892251	3520940	3211308	18E-18S-150040-0010
Sales Data							
Date of Sale	3/12/2021	5/23/2022	1/28/2021	7/19/2021	9/2/2021	2/24/2020	3/22/2018
Sales Price	$12,500	$14,500	$20,000	$15,000	$200,000	$160,000	$485,000
Price/Usable Square Foot	$1.59	$1.51	$1.35	$1.38	$2.30	$7.35	$7.09
Grantor	Yabpllah Habibzadeh	James W o'Neal Jr	Wheeler Construction	Parsley Construction, Inc	West Nature Coast Investments, Inc	Richard B Waterfield	West Nature Coast Investments, Inc.
Grantee	John Gartman and Carol Gartman	B and G Investments Group LLC	A-Plus Homes Inc	Kinter Revocable Trust DTD July 23 2019	Richard Dunn and Diana Dunn	Kirk Johnson and Amanda Ditchfield	Palmetto Beverly Hills-Lecanto Hwy, LLC
Recording Number							2018014653
Book/Page Number	3149/1806	3288/1008	3130/1962	3186/1241	3204/1012	3045/0867	
Document Number							
Property Rights Conveyed	Fee Simple	Fee Simple	Fee Simple	Fee Simple	Fee Simple	Fee Simple	Fee Simple
Financing	Cash to Seller	Cash to Seller	Cash to Seller	Cash to Seller	Cash to Seller	Cash to Seller	
Conditions of Sale	Arm's Length	Arm's Length	Arm's Length	Arm's Length	Arm's Length	Arm's Length	
Physical Characteristics							
Usable Land Area (Sq. Ft.)	7,841	9,583	14,810	10,890	87,120	21,780	68,368
Gross Land Area (Sq. Ft.)	7,841	9,583	14,810	10,890	87,120	21,780	68,368
Zoning	PDR	PDR	PDR	PDR	GNC & PDR	PDR	GNC
Flood Zone	X	X	X	X	X	X	Zone X (unshaded)
Topography	Level	Level	Level		Level	Level	
Shape	Slightly Irregular	Irregular	Rectangular	Rectangular	Irregular	Rectangular	Irregular
Corner Exposure	Corner	Corner	Interior	Interior	Interior	Corner	Corner

COMPARABLE SALES MAP



Land Sales Comparison Analysis

When necessary, adjustments were made for differences in various elements of comparison, including property rights conveyed, financing terms, conditions of sale, expenditures made immediately after purchase, market conditions, location, and other physical characteristics. If the element in comparison is considered superior to that of the subject, we applied a negative adjustment. Conversely, a positive adjustment was applied if inferior. A summary of the elements of comparison follows.

Elements of Comparison	
Real Property Rights Conveyed	Adjustments for differences in property rights appraised.
Financing Terms	Comparable properties are adjusted for differences between a transaction's financing terms and those assumed in the valuation of the subject property - e.g. seller financing, loan assumption, non-market terms.
Conditions of Sale	Comparable properties are adjusted for differences in the motivations of either the buyer or a seller in the transaction. In the instant case, no adjustments are required.
Expenditures After Purchase	Comparable properties can be adjusted for any additional investment required to make the property salable – e. g. costs to cure deferred maintenance, costs to demolish and remove any portion of the improvements, costs to remediate environmental contamination and/or costs to occupy or stabilize the property.
Market Conditions	Comparable properties can be adjusted for changes in market conditions because of inflation, deflation, fluctuations in supply and demand, or other factors.
Location	Location adjustments may be required when the locational characteristics of a comparable are different from those of the subject.
Size	The size adjustment addresses variance in the physical size of the comparables and that of the subject, as a larger parcel typically commands a lower price per unit than a smaller parcel. As this is an estimate of the Across the Fence Value, it is assumed that the subject would be part of a lot similar in size to the comparables. As such, no positive adjustments for size are warranted.
Shape /Depth	This element address variance in utility due to shape and/or depth. No adjustments are warranted.
Corner Exposure	Tracts featuring corner influence typically command higher prices in the market place, as opposed to interior locations. As the subject includes both corner and interior lots, no adjustments are warranted.

Summary of Adjustments

Presented on the following page is a summary of the adjustments made to the sale comparables. As noted earlier, these quantitative adjustments were based on our market research, best judgment, and experience in the appraisal of similar properties.

LAND SALES ADJUSTMENT GRID

	Subject	Sale # 1	Sale # 2	Sale # 3	Sale # 4	Sale # 5	Sale # 6	Sale # 7
Sale ID		1607894	1607896	1607892	1607899	1607902	1607904	1400880
Date of Value & Sale	August-22	March-21	May-22	January-21	July-21	September-21	February-20	March-18
Unadjusted Sales Price		$12,500	$14,500	$20,000	$15,000	$200,000	$160,000	$485,000
Usable Square Feet	1,206,612	7,841	9,583	14,810	10,890	87,120	21,780	68,368
Unadjusted Sales Price per Usable Sq. Ft.		**$1.59**	**$1.51**	**$1.35**	**$1.38**	**$2.30**	**$7.35**	**$7.09**
Transactional Adjustments								
Property Rights Conveyed	*Easement*	*Fee Simple*	*Fee Simple*	*Fee Simple*	*Fee Simple*	*Fee Simple*	*Fee Simple*	*Fee Simple*
Adjusted Sales Price		$1.59	$1.51	$1.35	$1.38	$2.30	$7.35	$7.09
Financing Terms	*Cash to Seller*	*Cash to Seller*	*Cash to Seller*	*Cash to Seller*	*Cash to Seller*	*Cash to Seller*	*Cash to Seller*	
Adjusted Sales Price		$1.59	$1.51	$1.35	$1.38	$2.30	$7.35	$7.09
Conditions of Sale	*Typical*	*Arm's Length*	*Arm's Length*	*Arm's Length*	*Arm's Length*	*Arm's Length*	*Arm's Length*	
Adjusted Sales Price		$1.59	$1.51	$1.35	$1.38	$2.30	$7.35	$7.09
Expenditures after Sale								
Adjusted Sales Price		**$1.59**	**$1.51**	**$1.35**	**$1.38**	**$2.30**	**$7.35**	**$7.09**
Market Conditions Adjustments								
Elapsed Time from Date of Value		*1.45 years*	*0.25 years*	*1.56 years*	*1.09 years*	*0.97 years*	*2.49 years*	*4.42 years*
Market Trend Through	August-22	17.4%	3.0%	18.8%	13.1%	4.8%	12.5%	22.1%
Subsequent Trend Ending	August-22						-	-
Analyzed Sales Price		**$1.87**	**$1.56**	**$1.60**	**$1.56**	**$2.41**	**$8.26**	**$8.66**
Physical Adjustments								
Location	*Rose Ave Beverly Hills, Florida*	*825 W Gleason Place Beverly Hills, Florida*	*4350 N Bacall Loop Beverly Hills, Florida*	*4325 N Bacall Loop Beverly Hills, Florida*	*6428 N Misty Oak Terrace Beverly Hills, Florida*	*2349 W Coast Path Beverly Hills, Florida*	*3511 n Lecanto Highway Beverly Hills, Florida*	*2301 W Coast Path Beverly Hills, Florida*
Adjustment		-	-	-	-	-	-	-
Typical Lot Size	*10,000 sf*	*7,841 sf*	*9,583 sf*	*14,810 sf*	*10,890 sf*	*87,120 sf*	*21,780 sf*	*68,368 sf*
Adjustment		-4.0%	-1.0%	5.0%	1.0%	-	-	-
Frontage	*Primary - 00 feet*	*Primary - 00 feet*	*Primary - 00 feet*	*Primary - 00 feet*	*Primary - 00 feet*	*Primary - 418 feet*	*Primary - 123 feet & Secondary - 169 feet*	*Primary - 300 feet*
Adjustment		-	-	-	-	-	-	-
Net Physical Adjustment		-4.0%	-1.0%	5.0%	1.0%	-	-	-
Adjusted Sales Price per Usable Square Foot		**$1.80**	**$1.54**	**$1.68**	**$1.57**	**$2.41**	**$8.26**	**$8.66**

Conclusion

From the market data available, we used seven land sales in competitive market areas which were adjusted based on pertinent elements of comparison. The following table summarizes the unadjusted and adjusted unit prices:

Land Sale Statistics

Metric	Unadjusted	Analyzed	Adjusted
Min. Sales Price per Usable Square Foot	$1.35	$1.56	$1.54
Max. Sales Price per Usable Square Foot	$7.35	$8.66	$8.66
Median Sales Price per Usable Square Foot	$1.59	$1.87	$1.80
Mean Sales Price per Usable Square Foot	$3.22	$3.70	$3.70

The subject is a mix of commercial and residential land uses. The chart below summarizes the weighted values of each land use:

H&BU Weighted Average

Area	Size (Ac)	Percentage	Value	Weighted Avg
Commercial	159	4%	$7.00	$0.27
Residential	3,894	96%	$1.65	$1.59
Total	4,053	100%	**Weighted Value**	**$1.86**

Based on the adjusted prices and the most comparable sale, a unit value for the subject property is near the middle of the adjusted range, or $1.86 per usable square foot. Thus, the estimated "Across the Fence Value" of the Fee Simple Interest in the subject easements is calculated to be $6,784,000.

Valuation of the Fee Simple Area

The fee simple land area is all residential therefore based on the adjusted prices and the most comparable sale, a unit value for the subject property is near the middle of the adjusted range, or $1.65 per usable square foot. Thus, based upon the assumptions, reasoning and comparable data discussed herein, the estimated "Market Value" of the subject Fee Simple area is calculated as follows:

Calculation of Fee Simple Value

Site Area		Unit Value		Market Value
1,206,612 Square Feet	X	$1.65	=	$2,000,000

Valuation of the Easement

The use to which the subject easements will be put to is for underground water and sewer pipes. As such, little or no surface improvements will be possible, but access across the surface will be allowed. It is my opinion, therefore, that such an easement will encumber approximately 40% of the ownership rights in the subject.

Thus, based upon the assumptions, reasoning and comparable data discussed herein, the estimated "Market Value" of the subject easements is calculated as follows:

Calculation of Easement Value

Site Area		Unit Value		Market Value of Fee		Easement Use	Indicated Value of Easement
3,647,714 square feet	X	$1.86 PSF	=	$6,784,000	X	40%	$2,725,000

Exposure Time and Marketing Period

Based on statistical information about days on market, escrow length, and marketing times gathered through national investor surveys, sales verification, and interviews of market participants, marketing and exposure time estimates of six months or less and six months or less, respectively, are considered reasonable and appropriate for the subject property.

General Assumptions and Limiting Conditions

This appraisal is subject to the following general assumptions and limiting conditions:

1. The legal description – if furnished to us – is assumed to be correct.
2. No responsibility is assumed for legal matters, questions of survey or title, soil or subsoil conditions, engineering, availability or capacity of utilities, or other similar technical matters. The appraisal does not constitute a survey of the property appraised. All existing liens and encumbrances have been disregarded and the property is appraised as though free and clear, under responsible ownership and competent management unless otherwise noted.
3. Unless otherwise noted, the appraisal will value the property as though free of contamination. Valbridge Property Advisors | New Orleans will conduct no hazardous materials or contamination inspection of any kind. It is recommended that the client hire an expert if the presence of hazardous materials or contamination poses any concern.
4. The stamps and/or consideration placed on deeds used to indicate sales are in correct relationship to the actual dollar amount of the transaction.
5. Unless otherwise noted, it is assumed there are no encroachments, zoning violations or restrictions existing in the subject property.
6. The appraiser is not required to give testimony or attendance in court by reason of this appraisal, unless previous arrangements have been made.
7. Unless expressly specified in the engagement letter, the fee for this appraisal does not include the attendance or giving of testimony by Appraiser at any court, regulatory or other proceedings, or any conferences or other work in preparation for such proceeding. If any partner or employee of Valbridge Property Advisors | New Orleans is asked or required to appear and/or testify at any deposition, trial, or other proceeding about the preparation, conclusions or any other aspect of this assignment, client shall compensate Appraiser for the time spent by the partner or employee in appearing and/or testifying and in preparing to testify according to the Appraiser's then current hourly rate plus reimbursement of expenses.
8. The values for land and/or improvements, as contained in this report, are constituent parts of the total value reported and neither is (or are) to be used in making a summation appraisal of a combination of values created by another appraiser. Either is invalidated if so used.
9. The dates of value to which the opinions expressed in this report apply are set forth in this report. We assume no responsibility for economic or physical factors occurring at some point at a later date, which may affect the opinions stated herein. The forecasts, projections, or operating estimates contained herein are based on current market conditions and anticipated short-term supply and demand factors and are subject to change with future conditions. Appraiser is not responsible for determining whether the date of value requested by Client is appropriate for Client's intended use.
10. The sketches, maps, plats and exhibits in this report are included to assist the reader in visualizing the property. The appraiser has made no survey of the property and assumed no responsibility in connection with such matters.
11. The information, estimates and opinions, which were obtained from sources outside of this office, are considered reliable. However, no liability for them can be assumed by the appraiser.

12. Possession of this report, or a copy thereof, does not carry with it the right of publication. Neither all, nor any part of the content of the report, or copy thereof (including conclusions as to property value, the identity of the appraisers, professional designations, reference to any professional appraisal organization or the firm with which the appraisers are connected), shall be disseminated to the public through advertising, public relations, news, sales, or other media without prior written consent and approval.
13. No claim is intended to be expressed for matters of expertise that would require specialized investigation or knowledge beyond that ordinarily employed by real estate appraisers. We claim no expertise in areas such as, but not limited to, legal, survey, structural, environmental, pest control, mechanical, etc.
14. This appraisal was prepared for the sole and exclusive use of the client for the function outlined herein. Any party who is not the client or intended user identified in the appraisal or engagement letter is not entitled to rely upon the contents of the appraisal without express written consent of Valbridge Property Advisors | New Orleans and Client. The Client shall not include partners, affiliates, or relatives of the party addressed herein. The appraiser assumes no obligation, liability or accountability to any third party.
15. Distribution of this report is at the sole discretion of the client, but third-parties not listed as an intended user on the face of the appraisal or the engagement letter may not rely upon the contents of the appraisal. In no event shall client give a third-party a partial copy of the appraisal report. We will make no distribution of the report without the specific direction of the client.
16. This appraisal shall be used only for the function outlined herein, unless expressly authorized by Valbridge Property Advisors | New Orleans.
17. This appraisal shall be considered in its entirety. No part thereof shall be used separately or out of context.
18. Unless otherwise noted in the body of this report, this appraisal assumes that the subject property does not fall within the areas where mandatory flood insurance is effective. Unless otherwise noted, we have not completed nor have we contracted to have completed an investigation to identify and/or quantify the presence of non-tidal wetland conditions on the subject property. Because the appraiser is not a surveyor, he or she makes no guarantees, express or implied, regarding this determination.
19. The flood maps are not site specific. We are not qualified to confirm the location of the subject property in relation to flood hazard areas based on the FEMA Flood Insurance Rate Maps or other surveying techniques. It is recommended that the client obtain a confirmation of the subject property's flood zone classification from a licensed surveyor.
20. If the appraisal is for mortgage loan purposes 1) we assume satisfactory completion of improvements if construction is not complete, 2) no consideration has been given for rent loss during rent-up unless noted in the body of this report, and 3) occupancy at levels consistent with our "Income and Expense Projection" are anticipated.
21. It is assumed that there are no hidden or unapparent conditions of the property, subsoil, or structures which would render it more or less valuable. No responsibility is assumed for such conditions or for engineering which may be required to discover them.

22. Our inspection included an observation of the land and improvements thereon only. It was not possible to observe conditions beneath the soil or hidden structural components within the improvements. We inspected the buildings involved, and reported damage (if any) by termites, dry rot, wet rot, or other infestations as a matter of information, and no guarantee of the amount or degree of damage (if any) is implied. Condition of heating, cooling, ventilation, electrical and plumbing equipment is considered to be commensurate with the condition of the balance of the improvements unless otherwise stated. Should the client have concerns in these areas, it is the client's responsibility to order the appropriate inspections. The appraiser does not have the skill or expertise to make such inspections and assumes no responsibility for these items.
23. This appraisal does not guarantee compliance with building code and life safety code requirements of the local jurisdiction. It is assumed that all required licenses, consents, certificates of occupancy or other legislative or administrative authority from any local, state or national governmental or private entity or organization have been or can be obtained or renewed for any use on which the value conclusion contained in this report is based unless specifically stated to the contrary.
24. When possible, we have relied upon building measurements provided by the client, owner, or associated agents of these parties. In the absence of a detailed rent roll, reliable public records, or "as-built" plans provided to us, we have relied upon our own measurements of the subject improvements. We follow typical appraisal industry methods; however, we recognize that some factors may limit our ability to obtain accurate measurements including, but not limited to, property access on the day of inspection, basements, fenced/gated areas, grade elevations, greenery/shrubbery, uneven surfaces, multiple story structures, obtuse or acute wall angles, immobile obstructions, etc. Professional building area measurements of the quality, level of detail, or accuracy of professional measurement services are beyond the scope of this appraisal assignment.
25. We have attempted to reconcile sources of data discovered or provided during the appraisal process, including assessment department data. Ultimately, the measurements that are deemed by us to be the most accurate and/or reliable are used within this report. While the measurements and any accompanying sketches are considered to be reasonably accurate and reliable, we cannot guarantee their accuracy. Should the client desire more precise measurement, they are urged to retain the measurement services of a qualified professional (space planner, architect or building engineer) as an alternative source. If this alternative measurement source reflects or reveals substantial differences with the measurements used within the report, upon request of the client, the appraiser will submit a revised report for an additional fee.
26. In the absence of being provided with a detailed land survey, we have used assessment department data to ascertain the physical dimensions and acreage of the property. Should a survey prove this information to be inaccurate, upon request of the client, the appraiser will submit a revised report for an additional fee.
27. If only preliminary plans and specifications were available for use in the preparation of this appraisal, and a review of the final plans and specifications reveals substantial differences upon request of the client the appraiser will submit a revised report for an additional fee.

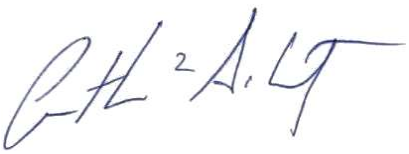
28. Unless otherwise stated in this report, the value conclusion is predicated on the assumption that the property is free of contamination, environmental impairment or hazardous materials. Unless otherwise stated, the existence of hazardous material was not observed by the appraiser and the appraiser has no knowledge of the existence of such materials on or in the property. The appraiser, however, is not qualified to detect such substances. The presence of substances such as asbestos, urea-formaldehyde foam insulation or other potentially hazardous materials may affect the value of the property. No responsibility is assumed for any such conditions, or for any expertise or engineering knowledge required for discovery. The client is urged to retain an expert in this field, if desired.
29. The Americans with Disabilities Act ("ADA") became effective January 26, 1992. We have not made a specific compliance survey of the property to determine if it is in conformity with the various requirements of the ADA. It is possible that a compliance survey of the property, together with an analysis of the requirements of the ADA, could reveal that the property is not in compliance with one or more of the requirements of the Act. If so, this could have a negative effect on the value of the property. Since we have no direct evidence relating to this issue, we did not consider possible noncompliance with the requirements of ADA in developing an opinion of value.
30. This appraisal applies to the land and building improvements only. The value of trade fixtures, furnishings, and other equipment, or subsurface rights (minerals, gas, and oil) were not considered in this appraisal unless specifically stated to the contrary.
31. No changes in any federal, state or local laws, regulations or codes (including, without limitation, the Internal Revenue Code) are anticipated, unless specifically stated to the contrary.
32. Any income and expense estimates contained in the appraisal report are used only for the purpose of estimating value and do not constitute prediction of future operating results. Furthermore, it is inevitable that some assumptions will not materialize and that unanticipated events may occur that will likely affect actual performance.
33. Any estimate of insurable value, if included within the scope of work and presented herein, is based upon figures developed consistent with industry practices. However, actual local and regional construction costs may vary significantly from our estimate and individual insurance policies and underwriters have varied specifications, exclusions, and non-insurable items. As such, we strongly recommend that the Client obtain estimates from professionals experienced in establishing insurance coverage. This analysis should not be relied upon to determine insurance coverage and we make no warranties regarding the accuracy of this estimate.
34. The data gathered in the course of this assignment (except data furnished by the Client) shall remain the property of the Appraiser. The appraiser will not violate the confidential nature of the appraiser-client relationship by improperly disclosing any confidential information furnished to the appraiser. Notwithstanding the foregoing, the Appraiser is authorized by the client to disclose all or any portion of the appraisal and related appraisal data to appropriate representatives of the Appraisal Institute if such disclosure is required to enable the appraiser to comply with the Bylaws and Regulations of such Institute now or hereafter in effect.

35. You and Valbridge Property Advisors | New Orleans both agree that any dispute over matters in excess of $5,000 will be submitted for resolution by arbitration. This includes fee disputes and any claim of malpractice. The arbitrator shall be mutually selected. If Valbridge Property Advisors | New Orleans and the client cannot agree on the arbitrator, the presiding head of the Local County Mediation & Arbitration panel shall select the arbitrator. Such arbitration shall be binding and final. In agreeing to arbitration, we both acknowledge that, by agreeing to binding arbitration, each of us is giving up the right to have the dispute decided in a court of law before a judge or jury. In the event that the client, or any other party, makes a claim against Valbridge Property Advisors | New Orleans or any of its employees in connections with or in any way relating to this assignment, the maximum damages recoverable by such claimant shall be the amount actually received by Valbridge Property Advisors | New Orleans for this assignment, and under no circumstances shall any claim for consequential damages be made.
36. Valbridge Property Advisors | New Orleans shall have no obligation, liability, or accountability to any third party. Any party who is not the "client" or intended user identified on the face of the appraisal or in the engagement letter is not entitled to rely upon the contents of the appraisal without the express written consent of Valbridge Property Advisors | New Orleans. "Client" shall not include partners, affiliates, or relatives of the party named in the engagement letter. Client shall hold Valbridge Property Advisors | New Orleans and its employees harmless in the event of any lawsuit brought by any third party, lender, partner, or part-owner in any form of ownership or any other party as a result of this assignment. The client also agrees that in case of lawsuit arising from or in any way involving these appraisal services, client will hold Valbridge Property Advisors | New Orleans harmless from and against any liability, loss, cost, or expense incurred or suffered by Valbridge Property Advisors | New Orleans in such action, regardless of its outcome.
37. The Valbridge Property Advisors office responsible for the preparation of this report is independently owned and operated by VPA of South Louisiana, Inc.. Neither Valbridge Property Advisors, Inc., nor any of its affiliates has been engaged to provide this report. Valbridge Property Advisors, Inc. does not provide valuation services, and has taken no part in the preparation of this report.
38. If any claim is filed against any of Valbridge Property Advisors, Inc., a Florida Corporation, its affiliates, officers or employees, or the firm providing this report, in connection with, or in any way arising out of, or relating to, this report, or the engagement of the firm providing this report, then (1) under no circumstances shall such claimant be entitled to consequential, special or other damages, except only for direct compensatory damages, and (2) the maximum amount of such compensatory damages recoverable by such claimant shall be the amount actually received by the firm engaged to provide this report.
39. This report and any associated work files may be subject to evaluation by Valbridge Property Advisors, Inc., or its affiliates, for quality control purposes.
40. Acceptance and/or use of this appraisal report constitutes acceptance of the foregoing general assumptions and limiting conditions.
41. The global outbreak of a "novel coronavirus" (known as COVID-19) was officially declared a pandemic by the World Health Organization (WHO). It is currently unknown what direct, or indirect, effect, if any, this event may have on the national economy, the local economy or the market in which the subject property is located. The reader is cautioned, and reminded that the conclusions presented in this appraisal report apply only as of the effective date(s) indicated. The appraiser makes no representation as to the effect on the subject property of this event, or any event, subsequent to the effective date of the appraisal.

Certification – Arthur L. Schwertz

I certify that, to the best of my knowledge and belief:

1. The statements of fact contained in this report are true and correct.
2. The reported analyses, opinions, and conclusions are limited only by the reported assumptions and limiting conditions and are my personal, impartial, and unbiased professional analyses, opinions, and conclusions.
3. I have no present or prospective interest in the property that is the subject of this report and no personal interest with respect to the parties involved.
4. The undersigned has not performed services regarding the property that is the subject of this report within the three-year period immediately preceding acceptance of this assignment.
5. I have no bias with respect to the property that is the subject of this report or to the parties involved with this assignment.
6. My engagement in this assignment was not contingent upon developing or reporting predetermined results.
7. My compensation for completing this assignment is not contingent upon the development or reporting of a predetermined value or direction in value that favors the cause of the client, the amount of value opinion, the attainment of a stipulated result, or the occurrence of a subsequent event directly related to the intended use of this appraisal.
8. My analyses, opinions and conclusions were developed, and this report has been prepared, in conformity with the Uniform Standards of Professional Appraisal Practice.
9. Arthur L. Schwertz did not personally inspect the subject property.
10. R. Carter Higdon provided significant real property appraisal assistance to the person signing this certification.
11. The reported analyses, opinions and conclusions were developed, and this report has been prepared, in conformity with the requirements of the Code of Professional Ethics and Standards of Professional Appraisal Practice of the Appraisal Institute.
12. The use of this report is subject to the requirements of the Appraisal Institute relating to review by its duly authorized representatives.
13. As of the date of this report, the undersigned has completed the continuing education program for Designated Members of the Appraisal Institute.



Arthur L. Schwertz, MAI
Senior Managing Director
Florida Certified General
Real Estate Appraiser RZ4249

Addenda

Glossary

Qualifications

- Arthur L. Schwertz, MAI - Senior Managing Director

Information on Valbridge Property Advisors

Office Locations

Glossary

Definitions are taken from The Dictionary of Real Estate Appraisal, 6th Edition (Dictionary), the Uniform Standards of Professional Appraisal Practice (USPAP), and Building Owners and Managers Association International (BOMA).

Absolute Net Lease

A lease in which the tenant pays all expenses including structural maintenance, building reserves, and management; often a long-term lease to a credit tenant. (Dictionary)

Amortization

The process of retiring a debt or recovering a capital investment, typically through scheduled, systematic repayment of the principal; a program of periodic contributions to a sinking fund or debt retirement fund. (Dictionary)

As Is Market Value

The estimate of the market value of real property in its current physical condition, use, and zoning as of the appraisal date. (Dictionary)

Base Rent

The minimum rent stipulated in a lease. (Dictionary)

Base Year

The year on which escalation clauses in a lease are based. (Dictionary)

Building Common Area

In office buildings, the areas of the building that provide services to building tenants but which are not included in the office area or store area of any specific tenant. These areas may include, but shall not be limited to, main and auxiliary lobbies, atrium spaces at the level of the finished floor, concierge areas or security desks, conference rooms, lounges or vending areas, food service facilities, health or fitness centers, daycare facilities, locker or shower facilities, mail rooms, fire control rooms, fully enclosed courtyards outside the exterior walls, and building core and service areas such as fully enclosed mechanical or equipment rooms. Specifically excluded from building common area are floor common areas, parking space, portions of loading docks outside the building line, and major vertical penetrations. (BOMA)

Building Rentable Area

The sum of all floor rentable areas. Floor rentable area is the result of subtracting from the gross measured area of a floor the major vertical penetrations on that same floor. It is generally fixed for the life of the building and is rarely affected by changes in corridor size or configuration. (BOMA)

Bulk Value

The value of multiple units, subdivided plots, or properties in a portfolio as though sold together in a single transaction.

Certificate of Occupancy (COO)

A formal written acknowledgment by an appropriate unit of local government that a new construction or renovation project is at the stage where it meets applicable health and safety codes and is ready for commercial or residential occupancy. (Dictionary)

Common Area Maintenance (CAM)

The expense of operating and maintaining common areas; may or may not include management charges and usually does not include capital expenditures on tenant improvements or other improvements to the property. (Dictionary)

The amount of money charged to tenants for their shares of maintaining a [shopping] center's common area. The charge that a tenant pays for shared services and facilities such as electricity, security, and maintenance of parking lots. Items charged to common area maintenance may include cleaning services, parking lot sweeping and maintenance, snow removal, security and upkeep. (ICSC – International Council of Shopping Centers, 4th Ed.)

Condominium

A multiunit structure, or a unit within such a structure, with a condominium form of ownership. (Dictionary)

Conservation Easement

An interest in real estate restricting future land use to preservation, conservation, wildlife habitat, or some combination of those uses. A conservation easement may permit farming, timber harvesting, or other uses of a rural nature as well as some types of conservation-oriented development to continue, subject to the easement. (Dictionary)

Contributory Value

A type of value that reflects the amount a property or component of a property contributes to the value of another asset or to the property as a whole.

The change in the value of a property as a whole, whether positive or negative, resulting from the addition or deletion of a property component. Also called deprival value in some countries. (Dictionary)

Debt Coverage Ratio (DCR)

The ratio of net operating income to annual debt service (DCR = NOI/Im), which measures the relative ability of a property to meet its debt service out of net operating income; also called *debt service coverage ratio (DSCR)*. A larger *DCR* typically indicates a greater ability for a property to withstand a reduction of income, providing an improved safety margin for a lender. (Dictionary)

Deed Restriction

A provision written into a deed that limits the use of land. Deed restrictions usually remain in effect when title passes to subsequent owners. (Dictionary)

Depreciation

In appraisal, a loss in property value from any cause; the difference between the cost of an improvement on the effective date of the appraisal and the market value of the improvement on the same date.

In accounting, an allocation of the original cost of an asset, amortizing the cost over the asset's life; calculated using a variety of standard techniques. (Dictionary)

Disposition Value

The most probable price that a specified interest in property should bring under the following conditions:

- Consummation of a sale within a specified time, which is shorter than the typical exposure time for such a property in that market.
- The property is subjected to market conditions prevailing as of the date of valuation;
- Both the buyer and seller are acting prudently and knowledgeably;
- The seller is under compulsion to sell;
- The buyer is typically motivated;
- Both parties are acting in what they consider to be their best interests;
- An adequate marketing effort will be made during the exposure time;
- Payment will be made in cash in U.S. dollars (or the local currency) or in terms of financial arrangements comparable thereto; and
- The price represents the normal consideration for the property sold, unaffected by special or creative financing or sales concessions granted by anyone associated with the sale. (Dictionary)

Double Net (Net Net) Lease

An alternative term for a type of net lease. In some markets, a net net lease is defined as a lease in which the tenant is responsible to pay both property taxes and premiums for insuring the building(s). (Valbridge)

(The market definition of a double net lease varies depending on the market)

Easement

The right to use another's land for a stated purpose. (Dictionary)

EIFS

Exterior Insulation Finishing System. This is a type of exterior wall cladding system. Sometimes referred to as dry-vit.

Effective Date

The date on which the appraisal or review opinion applies. (SVP)

In a lease document, the date upon which the lease goes into effect. (Dictionary)

Effective Gross Income (EGI)

The anticipated income from all operations of the real estate after an allowance is made for vacancy and collection losses and an addition is made for any other income. (Dictionary)

Effective Rent

Total base rent, or minimum rent stipulated in a lease, over the specified lease term minus rent concessions; the rent that is effectively paid by a tenant net of financial concessions provided by a landlord. (TIs). (Dictionary)

EPDM

Ethylene Propylene Diene Monomer Rubber. A type of synthetic rubber typically used for roof coverings. (Dictionary)

Escalation Clause

A clause in an agreement that provides for the adjustment of a price or rent based on some event or index. e.g., a provision to increase rent if operating expenses increase; also called *escalator clause, expense recovery clause or stop clause*. (Dictionary)

Estoppel Certificate

A signed statement by a party (such as a tenant or a mortgagee) certifying, for another's benefit, that certain facts are correct, such as that a lease exists, that there are no defaults, and that rent is paid to a certain date. (Black's) In real estate, a buyer of rental property typically requests estoppel certificates from existing tenants. Sometimes referred to as an *estoppel letter*. (Dictionary)

Excess Land

Land that is not needed to serve or support the existing use. The highest and best use of the excess land may or may not be the same as the highest and best use of the improved parcel. Excess land has the potential to be sold separately and is valued separately. (Dictionary)

Excess Rent
The amount by which contract rent exceeds market rent at the time of the appraisal; created by a lease favorable to the landlord (lessor) and may reflect unusual management, unknowledgeable or unusually motivated parties, a lease execution in an earlier, stronger rental market, or an agreement of the parties. (Dictionary)

Expense Stop
A clause in a lease that limits the landlord's expense obligation, which results in the lessee paying operating expenses above a stated level or amount. (Dictionary)

Exposure Time
The time a property remains on the market.
The estimated length of time that the property interest being appraised would have been offered on the market prior to the hypothetical consummation of a sale at market value on the effective date of the appraisal;

Comment: Exposure time is a retrospective opinion based on an analysis of past events assuming a competitive and open market. (Dictionary)

Extraordinary Assumption
An assignment-specific assumption as of the effective date regarding uncertain information used in an analysis which, if found to be false, could alter the appraiser's opinions or conclusions.

Comment: Uncertain information might include physical, legal, or economic characteristics of the subject property; or conditions external to the property, such as market conditions or trends; or the integrity of data used in an analysis. (USPAP)

Fee Simple Estate
Absolute ownership unencumbered by any other interest or estate, subject only to the limitations imposed by the governmental powers of taxation, eminent domain, police power, and escheat. (Dictionary)

Floor Common Area
In an office building, the areas on a floor such as washrooms, janitorial closets, electrical rooms, telephone rooms, mechanical rooms, elevator lobbies, and public corridors which are available primarily for the use of tenants on that floor. (BOMA)

Full Service (Gross) Lease
A lease in which the landlord receives stipulated rent and is obligated to pay all of the property's operating and fixed expenses; also called a *full service lease*. (Dictionary)

Furniture, Fixtures, and Equipment (FF&E)
Business trade fixtures and personal property, exclusive of inventory. (Dictionary)

Going-Concern Value
An outdated label for the market value of all the tangible and intangible assets of an established and operating business with an indefinite life, as if sold in aggregate; more accurately termed the *market value of the going concern* or *market value of the total assets of the business.* (Dictionary)

Gross Building Area (GBA)
Total floor area of a building, excluding unenclosed areas, measured from the exterior of the walls of the above-grade area. This includes mezzanines and basements if and when typically included in the market area of the type of property involved.

Gross leasable area plus all common areas.
For residential space, the total area of all floor levels measured from the exterior of the walls and including the superstructure and substructure basement; typically does not include garage space. (Dictionary)

Gross Measured Area
The total area of a building enclosed by the dominant portion (the portion of the inside finished surface of the permanent outer building wall which is 50 percent or more of the vertical floor-to-ceiling dimension, at the given point being measured as one moves horizontally along the wall), excluding parking areas and loading docks (or portions of same) outside the building line. It is generally not used for leasing purposes and is calculated on a floor by floor basis. (BOMA)

Gross Up Method
A method of calculating variable operating expenses in income-producing properties when less than 100% occupancy is assumed. Expenses reimbursed based on the amount of occupied space, rather than on the total building area, are described as "grossed up." (Dictionary)

Gross Retail Sellout
The sum of the separate and distinct market value opinions for each of the units in a condominium, subdivision development, or portfolio of properties, as of the date of valuation. The aggregate of retail values does not represent the value of all the units as though sold together in a single transaction; it is simply the total of the individual market value conclusions. Also called the *aggregate of the retail values, aggregate retail selling price or sum of the retail values.* (Dictionary)

Ground Lease
A lease that grants the right to use and occupy land. Improvements made by the ground lessee typically revert to the ground lessor at the end of the lease term. (Dictionary)

Ground Rent
The rent paid for the right to use and occupy land according to the terms of a ground lease; the portion of the total rent allocated to the underlying land. (Dictionary)

HVAC
Heating, ventilation, air conditioning (HVAC) system. A unit that regulates the temperature and distribution of heat and fresh air throughout a building. (Dictionary)

Highest and Best Use
The reasonably probable use of property that results in the highest value. The four criteria that the highest and best use must meet are legal permissibility, physical possibility, financial feasibility, and maximum productivity.

The use of an asset that maximizes its potential and that is possible, legally permissible, and financially feasible. The highest and best use may be for continuation of an asset's existing use of for some alternative use. This is determined by the use that a market participant would have in mind for the asset when formulating the price that it would be willing to bid. (IVS)

[The] highest and most profitable use for which the property is adaptable and needed or likely to be needed in the reasonably near future. (Uniform Appraisal Standards for Federal Land Acquisitions) (Dictionary)

Hypothetical Condition
A condition, directly related to a specific assignment, which is contrary to what is known by the appraiser to exist on the effective date of the assignment results, but is used for the purpose of analysis.

Comment: Hypothetical conditions are contrary to known facts about physical, legal, or economic characteristics of the subject property; or about conditions external to the property, such as market conditions or trends; or about the integrity of data used in an analysis. (USPAP)

Insurable Value
A type of value for insurance purposes. (Typically this includes replacement cost less basement excavation, foundation, underground piping and architect's fees). (Dictionary)

Investment Value
The value of a property to a particular investor or class of investors based on the investor's specific requirements. Investment value may be different from market value because it depends on a set of investment criteria that are not necessarily typical of the market. (Dictionary)

Just Compensation
In condemnation, the amount of loss for which a property owner is compensated when his or her property is taken. Just compensation should put the owner in as good a position pecuniarily as he or she would have been if the property had not been taken. (Dictionary)

Leased Fee Interest
The ownership interest held by the lessor, which includes the right to receive the contract rent specified in the lease plus the reversionary right when the lease expires. (Dictionary)

Leasehold Interest
The right held by the lessee to use and occupy real estate for a stated term and under the conditions specified in the lease. (Dictionary)

See also Positive Leasehold and Negative Leasehold.

Lessee (Tenant)
One who has the right to occupancy and use of the property of another for a period of time according to a lease agreement. (Dictionary)

Lessor (Landlord)
One who conveys the rights of occupancy and use to others under a lease agreement. (Dictionary)

Liquidation Value
The most probable price that a specified interest in property should bring under the following conditions:

- Consummation of a sale within a short time period.
- The property is subjected to market conditions prevailing as of the date of valuation.
- Both the buyer and seller are acting prudently and knowledgeably.
- The seller is under extreme compulsion to sell.
- The buyer is typically motivated.
- Both parties are acting in what they consider to be their best interests.
- A normal marketing effort is not possible due to the brief exposure time.
- Payment will be made in cash in U.S. dollars (or the local currency) or in terms of financial arrangements comparable thereto.

The price represents the normal consideration for the property sold, unaffected by special or creative financing or sales concessions granted by anyone associated with the sale. (Dictionary)

Loan to Value Ratio (LTV)

The ratio between a mortgage loan and the value of the property pledged as security, usually expressed as a percentage. (Dictionary)

Major Vertical Penetrations

Stairs, elevator shafts, flues, pipe shafts, vertical ducts, and the like, and their enclosing walls. Atria, lightwells and similar penetrations above the finished floor are included in this definition. Not included, however, are vertical penetrations built for the private use of a tenant occupying office areas on more than one floor. Structural columns, openings for vertical electric cable or telephone distribution, and openings for plumbing lines are not considered to be major vertical penetrations. (BOMA)

Market Rent

The most probable rent that a property should bring in a competitive and open market under all the conditions requisite to a fair lease transaction, the lessee and the lessor each acting prudently and knowledgeably, and assuming the rent is not affected by undue stimulus. Implicit in this definition is the execution of a lease as of a specified date under conditions whereby:
Lessee and lessor are typically motivated;
Both parties are well informed or well advised, and acting in what they consider their best interests;
Payment is made in terms of cash or in terms of financial arrangements comparable thereto; and
The rent reflects specified terms and conditions, such as permitted uses, use restrictions, expense obligations, duration, concessions, rental adjustments and revaluations, renewal and purchase options, and tenant improvements (TIs). (Appraisal Institute)

Market Value

The most probable price that a property should bring in a competitive and open market under all conditions requisite to a fair sale, the buyer and seller each acting prudently and knowledgeably, and assuming the price is not affected by undue stimulus. Implicit in this definition is the consummation of a sale as of a specified date and the passing of title from seller to buyer under conditions whereby:

- Buyer and seller are typically motivated;
- Both parties are well informed or well advised, and acting in what they consider their own best interests;
- A reasonable time is allowed for exposure in the open market;
- Payment is made in terms of cash in United States dollars or in terms of financial arrangements comparable thereto; and
- The price represents the normal consideration for the property sold unaffected by special or creative financing or sales concessions granted by anyone associated with the sale. (Dictionary)

Marketing Time

An opinion of the amount of time it might take to sell a real or personal property interest at the concluded market value level during the period immediately after the effective date of an appraisal. Marketing time differs from exposure time, which is always presumed to precede the effective date of an appraisal. (Advisory Opinion 7 of the Appraisal Standards Board of the Appraisal Foundation)

Master Lease

A lease in which the fee owner leases a part or the entire property to a single entity (the master lease) in return for a stipulated rent. The master lessee then leases the property to multiple tenants. (Dictionary)

Modified Gross Lease

A lease in which the landlord receives stipulated rent and is obligated to pay some, but not all, of the property's operating and fixed expenses. Since assignment of expenses varies among modified gross leases, expense responsibility must always be specified. In some markets, a modified gross lease may be called a *double net lease, net net lease, partial net lease, or semi-gross le*ase. (Dictionary)

Negative Leasehold

A lease situation in which the market rent is less than the contract rent. (Dictionary)

Operating Expense Ratio

The ratio of total operating expenses to effective gross income (TOE/EGI); the complement of the net income ratio, i.e., OER = 1 – NIR (Dictionary)

Option

A legal contract, typically purchased for a stated consideration, that permits but does not require the holder of the option (known as the *optionee*) to buy, sell, or lease real estate for a stipulated period of time in accordance with specified terms; a unilateral right to exercise a privilege. (Dictionary)

Partial Interest

Divided or undivided rights in real estate that represent less than the whole, i.e., a fractional interest such as a tenancy in common, easement, or life interest. (Dictionary)

Pass Through

A tenant's portion of operating expenses that may be composed of common area maintenance (CAM), real property taxes, property insurance, and any other expenses determined in the lease agreement to be paid by the tenant. (Dictionary)

Percentage Lease
A lease in which the rent or some portion of the rent represents a specified percentage of the volume of business, productivity, or use achieved by the tenant. (Dictionary)

Positive Leasehold
A lease situation in which the market rent is greater than the contract rent. (Dictionary)

Potential Gross Income (PGI)
The total income attributable to property at full occupancy before vacancy and operating expenses are deducted. (Dictionary)

Prospective Future Value Upon Completion
A prospective market value may be appropriate for the valuation of a property interest related to a credit decision for a proposed development or renovation project. According to USPAP, an appraisal with a prospective market value reflects an effective date that is subsequent to the date of the appraisal report. … The prospective market value –as completed- reflects the property's market value as of the time that development is expected to be complete. (Dictionary)

Prospective Future Value Upon Stabilization
A prospective market value may be appropriate for the valuation of a property interest related to a credit decision for a proposed development or renovation project. According to USPAP, an appraisal with a prospective market value reflects an effective date that is subsequent to the date of the appraisal report …The prospective market value – as stabilized – reflects the property's market value as of the time the property is projected to achieve stabilized occupancy. For an income-producing property, stabilized occupancy is the occupancy level that a property is expected to achieve after the property is exposed to the market for lease over a reasonable period of time and at comparable terms and conditions to other similar properties. (Dictionary)

Replacement Cost
The estimated cost to construct, at current prices as of a specific date, a substitute for a building or other improvements, using modern materials and current standards, design, and layout. (Dictionary)

Reproduction Cost
The estimated cost to construct, at current prices as of the effective date of the appraisal, an exact duplicate or replica of the building being appraised, using the same materials, construction standards, design, layout, and quality of workmanship and embodying all of the deficiencies, superadequacies, and obsolescence of the subject building. (Dictionary)

Retrospective Value Opinion
A value opinion effective as of a specified historical date. The term *retrospective* does not define a type of value. Instead, it identifies a value opinion as being effective at some specific prior date. Value as of a historical date is frequently sought in connection with property tax appeals, damage models, lease renegotiation, deficiency judgments, estate tax, and condemnation. Inclusion of the type of value with this term is appropriate, e.g., "retrospective market value opinion." (Dictionary)

Sandwich Leasehold Estate
The interest held by the sandwich leaseholder when the property is subleased to another party; a type of leasehold estate. (Dictionary)

Sublease
An agreement in which the lessee in a prior lease conveys the right of use and occupancy of a property to another, the sublessee, for a specific period of time, which may or may not be coterminous with the underlying lease term. (Dictionary)

Subordination
A contractual arrangement in which a party with a claim to certain assets agrees to make his or her claim junior, or subordinate, to the claims of another party. (Dictionary)

Surplus Land
Land that is not currently needed to support the existing use but cannot be separated from the property and sold off for another use. Surplus land does not have an independent highest and best use and may or may not contribute value to the improved parcel. (Dictionary)

TPO
Thermoplastic polyolefin, a resilient synthetic roof covering.

Triple Net (Net Net Net) Lease
An alternative term for a type of net lease. In some markets, a net net net lease is defined as a lease in which the tenant assumes all expenses (fixed and variable) of operating a property except that the landlord is responsible for structural maintenance, building reserves, and management; also called *NNN lease, net net net lease, or fully net lease*. (Dictionary)

(The market definition of a triple net lease varies; in some cases tenants pay for items such as roof repairs, parking lot repairs, and other similar items.)

Usable Area
The measured area of an office area, store area, or building common area on a floor. The total of all the usable areas for a floor shall equal floor usable area of that same floor. (BOMA)

Value-in-Use

The value of a property assuming a specific use, which may or may not be the property's highest and best use on the effective date of the appraisal. Value in use may or may not be equal to market value but is different conceptually. (Dictionary)

VTAB

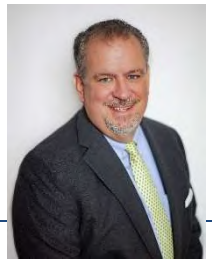
Value of the Total Assets of a Business. The value of a going concern (i.e. the business enterprise). (Dictionary)

Qualifications

Qualifications of Arthur L. Schwertz, MAI

Senior Managing Director
Valbridge Property Advisors | South Louisiana

Independent Valuations for a Variable World



State Certifications

Certified General in:
Louisiana
Mississippi
Alabama
Texas
Virginia
California
Arizona
Kentucky
Tennessee
North Carolina
Maryland

Education

Bachelor of Arts
History
Louisiana State University

Contact Details

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Membership/Affiliations

Member: Appraisal Institute – MAI Designation
Louisiana Chapter President, 2017
Member: Celebration Church Administrative Team (Corporate Secretary)

Appraisal Institute & Related Courses

Continuing education courses taken through the Appraisal Institute and other real estate organizations.

Publications, Seminars Presented, etc.

"Contract or Effective Rent: Finding the Real Rent", Appraisal Institute, Austin, Texas, 2019.

"Contract or Effective Rent: Finding the Real Rent", Appraisal Institute, Baton Rouge, Louisiana, 2016.

"Appraising Commercial and Complex Properties in an Historic Area", Webinar for the Appraisal Institute, 2015.

"The Unique Appraisal: Case Studies in Appraising Special Purpose Properties", AI Connect 2014 (Appraisal Institute's National Meeting), Austin, Texas, 2014.

Schwertz, Arthur L. 2014. "History Lesson", *Valuation Magazine 2nd Quarter, 2014,* 12 – 13.

Huso, Deborah R. 2013. "On the Waterfront", *Valuation Magazine 2nd Quarter, 2013,* 22 – 27. (Contributor)

Experience

Senior Managing Director
Valbridge Property Advisors | South Louisiana (2013-Present)

Vice-President
Argote, Derbes, Graham, Shuffield & Tatje, Inc. (1992-2013)

Appraisal/valuation and consulting assignments include (but not limited to): Single-family, condominium, apartments, vacant land, funeral homes, amphitheaters, live performance theaters, office buildings, hospitals, nursing homes, specialized healthcare, hotels/motels, service stations, retail, industrial plants, warehouses, fractional interest valuations, contaminated properties, special purpose properties (port facilities, nuclear reactor simulator facility, shipyards, etc.), senior residential and healthcare facilities, feasibility studies, market studies, condemnation, construction defects, litigation support, mediations, and review appraisals.

Mr. Schwertz has provided valuation services in a wide variety of complex civil litigation including real estate, land use cases, condemnation, estate matters, property taxation, construction defect, and bankruptcy/creditors matters.

Qualified as an expert witness in Terrebonne, Jefferson, Orleans, and St. Tammany Parishes, Dallas County, Texas, Indiana Board of Tax Review, United States Court of Federal Claims, United States Court for the Eastern District of Louisiana and the United States Bankruptcy Court for the Middle District of Louisiana.

QUALIFICATIONS OF THE APPRAISER (Continued)

ARTHUR L. SCHWERTZ, MAI

Designations, Associations and Professional Awards

- Louisiana Certified General Real Estate Appraiser; License No. G-0932
- Mississippi Certified General Real Estate Appraiser; License No. GA-633
- Alabama Certified General Real Estate Appraiser; License No. G00937
- Texas Certified General Real Estate Appraiser, License No. TX-1337393-G
- California Certified General Real Estate Appraiser, License No. 3005682
- Virginia Certified General Real Estate Appraiser, License No. 400101572
- Arizona Certified General Real Estate Appraiser, License No. 1003038
- North Carolina Certified General Real Estate Appraiser, License No. A8506
- Tennessee Certified General Real Estate Appraiser, License No. 5810
- Kentucky Certified General Real Estate Appraiser, License No. 5470
- Maryland Certified General Real Estate Appraiser, License No. 40034070
- Member of the Appraisal Institute, MAI Certificate No. 12678
- Instructor of the Appraisal Institute
- Secretary, Louisiana Chapter of the Appraisal Institute, 2014
- Treasurer, Louisiana Chapter of the Appraisal Institute, 2015
- Vice-President, Louisiana Chapter of the Appraisal Institute, 2016
- President, Louisiana Chapter of the Appraisal Institute, 2017

Civic Organizations

1982	Eagle Scout, Boy Scouts of America
1983	Vigil Honor Member, Order of the Arrow, Boy Scouts of America
1999 – 2001	Board of Directors, Berean Bible Church, New Orleans, Louisiana
2000 – 2001	Treasurer, Berean Bible Church, New Orleans, Louisiana
2008 – 2010	School Board Chairman, Crescent City Christian School, Metairie, Louisiana.
2008 – Present	Board of Directors, Celebration Church, Metairie, Louisiana
2010 – Present	Corporate Secretary, Celebration Church, Metairie, Louisiana

QUALIFICATIONS OF THE APPRAISER (Continued)

ARTHUR L. SCHWERTZ, MAI

Expert Witness Experience

- Expert Witness, United States Court of Federal Claims
- Expert Witness, United States Bankruptcy Court, Middle and Eastern Districts of Louisiana
- Expert Witness, United States Federal Court, Eastern District of Louisiana
- Expert Witness, Civil District Court for the Parish of Orleans, State of Louisiana.
- Expert Witness, State Civil District Court, Dallas County, State of Texas.
- Expert Witness, Louisiana Tax Commission
- Expert Witness, Circuit Court for the City of Norfolk, Virginia
- Expert Witness, 9th JDC, 23rd JDC and 32nd JDC, State of Louisiana
- Expert Witness, Indiana Board of Tax Review, State of Indiana

Court Testimony

2020	GIV Green Tree Mall Investor, LLC v. Clark County Assessor, Petition Nos. 10-011-17-1-4-02088-17, 10-011-18-1-4-00149-20 and 10-011-19-1-4-00150-20, Indiana Board of Tax Review, State of Indiana.
2020	Low Land Investors, LLC, Low Land Construction Co., Inc. v. New Generation Shipbuilding, LLC, Case No. 180743, 32nd Judicial District for Terrebonne Parish, State of Louisiana (Deposition/Testimony)
2020	Cella III, LLC v. Jefferson Parish Hospital District No. 2, Civil Action No. EDLA 19-11528, Bankruptcy No. 19-01145, United States District Court for the Eastern District of Louisiana (Deposition/Testimony)
2020	Elizabeth Sewell, et al v. Sewerage & Water Board of New Orleans, Docket No. 15-4501, Division D-12, Civil District Court, Parish of Orleans, State of Louisiana (Deposition)
2019	Virginia Natural Gas, Inc. v. Colonna's Ship Yard, Incorporated, Case No. CL18-2169, Circuit Court for the City of Norfolk, State of Virginia (Deposition)
2018	Jeannette C. Liebman, Wife of/and Paul E. Ramoni, Jr. v. The United States, Docket No. 14-1165, United States Court of Federal Claims (Testimony)
2016	Appeal of Filmore Parc Apartments v. Orleans Parish Board of Review, Docket Nos. 16-22173-001 and 16-22173-002, Louisiana Tax Commission, State of Louisiana. (Testimony)
2016	Appeal of Fulton Development (Harrah's Hotel) v. Orleans Parish Board of Review, Docket No. 16-22171-002, Louisiana Tax Commission, State of Louisiana (Testimony)
2016	Jeannette C. Liebman and Paul E. Ramoni, Jr. v. United States of America, Case No. 14-1165 L, United States Court of Federal Claims (Deposition)
2016	State of Louisiana, Department of Transportation & Development v. Northport Properties Partnership, Et Al, Docket No. 233,894, 9th Judicial District, Parish of Rapides, State of Louisiana (Deposition)
2015	Appeal of Filmore Parc Apartments v. Orleans Parish Board of Review, Docket Nos. 15-22173-018 and 15-22173-019, Louisiana Tax Commission, State of Louisiana. (Testimony)

QUALIFICATIONS OF THE APPRAISER (Continued)

ARTHUR L. SCHWERTZ, MAI

Court Testimony (Continued)

2015	Doretha Z. Walker et al vs. AMID/Metro Partnership, LLC and City of New Orleans, Docket No. 07-14794, Division H-14, Civil District Court for the Parish of Orleans, State of Louisiana. (Testimony)
2015	Sandra Oubre Sotile, Et Al vs Dooley Oubre, Et Al, Docket No. 110,622, 23rd Judicial District Court, Ascension Parish, Louisiana (Deposition)
2014	North Shore Lodging, LLC vs Commonwealth Land Title Insurance Company, Case No. 2:2013cv06070, United States Court for the Eastern District of Louisiana (Deposition)
2014	Appeal of Filmore Parc Apartments v. Orleans Parish Board of Review, Docket Nos. 14-22173-003 and 14-22173-004, Louisiana Tax Commission, State of Louisiana. (Testimony)
2014	State Bank of Texas vs. Granbury Hospitality Inc., et al, Cause No. DC-12-06398, 44th State Civil District Court, Dallas County, State of Texas. (Testimony)
2013	Bruce L. Feingerts v Succession of Doris Feingerts, et al, Adversary Proceeding No. 2011-9918, Civil District Court for the Parish of Orleans, State of Louisiana. (Testimony)
2012	Consolidated Cases of Percy J. Marchand versus Entergy New Orleans, Inc., Docket No. 2009-12695 AND Omar Duncan, Et Al, vs. Entergy New Orleans, Inc., Docket No. 2010-0714 AND Leroy Anthony Vignaud versus Entergy New Orleans, Inc. Docket No. 2010-5566, Division "C" of the Civil District Court for the Parish of Orleans, State of Louisiana. (Deposition)
2011	Pleasant View Development, LLC v Charles Anthony Bonaventure, Gina Bonaventure Porciau, Charles R. St. Romain, and Patin Engineers and Surveyors, Inc., Adversary Proceeding No. 10-1024, United States Bankruptcy Court, Middle District of Louisiana (Testimony)
2011	1522 R.E. Lee Blvd., LLC v. Bank of New Orleans, Civil District Court for the Parish of Orleans, State of Louisiana (Deposition)

Partial List of Appraisal Assignments Completed

Water and Wastewater Systems

Resolve Water, Slidell, LA

Coast Water, Slidell, LA

H20 Water and Wastewater, St. Tammany Parish, LA

Mo-Dad Utilities, Tangipahoa, Livingston, West Baton Rouge, East Baton Rouge and West Feliciana Parishes, LA

Scientific System, Jacksonville, NC

Center Ridge System, Murray, KY

Blue Creek Utilities, Jacksonville, NC

Delaplain Utilities, Georgetown, KY

River Bluff Wastewater System, River Bluff, KY

Major Retail

Green Tree Mall (±443,933 square feet), Clarksville, IN

Northshore Square Mall (±621,192 square feet), Slidell, LA

The Shoppes at Fremaux (±600,000 square feet), Slidell, LA

Slidell Factory Outlet Mall, Slidell, LA

Southland Mall (±600,000 square feet), Houma, LA

The Plaza (±1,200,000 square feet), New Orleans, LA

Belle Promenade (±750,000 square feet), Marrero, LA

Jax Brewery, New Orleans, LA

River Marketplace Shopping Center, Lafayette, LA

Natchez Mall (±268,857 square feet), Natchez, MS

Bradley Square Mall (568,508 square feet), Cleveland, TN

QUALIFICATIONS OF THE APPRAISER (Continued)

ARTHUR L. SCHWERTZ, MAI

Partial List of Appraisal Assignments Completed (Continued)

Healthcare

Gilchrist at Stadium Place, Baltimore, MD
Savoy Medical Center, Mamou, LA
Methodist Hospital, New Orleans, LA
Lakeland Hospital, New Orleans, LA
Shriner's Hospital, Shreveport, LA
Fairway Surgical Hospital, Covington, LA
Southpark Hospital, Lafayette, LA
St. James Parish Hospital, St. James, LA
Green Clinic and Surgery Center, Ruston, LA
Numerous Nursing Homes throughout Louisiana
Lambeth House Assisted Living, New Orleans, LA
O'Connor Hospital, San Jose, CA
St. Louise Regional Medical Center, Gilroy, CA
St. Vincent Medical Center, Los Angeles, CA
Rosewood Assisted Living Facility, Charlottesville, VA

Industrial

Colonna's Shipyard, Norfolk, VA
Signal International Shipyard, Orange, TX
Signal International Shipyard, Mobile, AL
Signal International Shipyard, Port Arthur, TX
Signal International Shipyard, Pascagoula, MS
Bender Shipyard, Mobile, AL
Plastic Infusion Plant, Hammond, LA
UBT Coal Transfer Facility, Davant, LA
Trinity Yachts, Gulfport, MS
Trinity Yachts, New Orleans, LA
Coca-Cola Facility, Thibodaux, LA
LaShip Shipyard, Houma, LA
Dow Chemical Plant, Norco, LA
Port of St. Bernard, St. Bernard, LA
Owensboro Riverport, Owensboro, KY
Toulouse Street Wharf, Port of New Orleans, LA
Mississippi River Dock, Venice, LA
Port of Iberia, New Iberia, LA.
Kaiser Site, Port of Greater Baton Rouge, LA
Proposed Port of Cameron, Cameron, LA
Union Tank Car Plant, Alexandria, LA

Entertainment/Leisure

Dixie Landing Amusement Park, Baton Rouge, LA
Blue Bayou Water Park, Baton Rouge, LA
Proposed Aqualand Water Park, Dayton, TX
Saenger Theatre, New Orleans, LA
Orpheum Theatre, New Orleans, LA
Vina Robles Amphitheatre, Paso Robles, CA
House of Blues, New Orleans, LA
The Oaks Golf Course, Pass Christian, MS
Money Hill Golf Course, Abita Springs, LA
Pelican Pointe Golf Course, Gonzales, LA
Colonial Country Club, Harahan, LA
O'Neal Theatres, Louisiana/Mississippi
Antoine's Restaurant, New Orleans, LA
AMC Theatres, Metairie/Hammond/Houma, LA
Southern Belle Casino, St. Francisville, LA
Bayou Marina, Casino and Hotel, Chalmette, LA
Lucky Deuces Casino, Greensburg, LA
Lafitte Harbor Marina, Lafitte, LA
Vinot Marina, New Orleans, LA
River Highlands Marina, Ascension Parish, LA
Kemper Marina, Gulfport, MS
C and M Marina, Lafitte, LA
Cypress Cove Marina, Venice, LA
Starlight Movie Studios, New Orleans, LA

Schools

Clifton L. Ganus Academy, New Orleans, LA
Mt. Carmel Academy, New Orleans, LA
Israel Augustine School, New Orleans, LA
Millerville Academy, Baton Rouge, LA
Louise S. McGhee School, New Orleans, LA
Stuart Hall Academy, New Orleans, LA
Believer's Life Academy, Marrero, LA

QUALIFICATIONS OF THE APPRAISER (Continued)

ARTHUR L. SCHWERTZ, MAI

Partial List of Appraisal Assignments Completed (Continued)

Special Purpose Properties

Nuclear Reactor Simulator Facility, St. Francisville, LA

Statewide Economic Obsolescence Study for Hibernia Bank, State of Louisiana

Mitigation Bank, St. James Parish, LA

Mitigation Bank, Livingston Parish, LA

Mitigation Bank, East Baton Rouge Parish, LA

Elmer's Island, Jefferson Parish, LA

USPS Facilities throughout Louisiana and Mississippi

Multi-Family

Shadowlake Apartments, Harvey, LA

Citrus Creek Apartments, Harahan, LA

Palmetto Creek Apartments, Harahan, LA

The Reserve at Acadiana, Lafayette, LA

Gravier Place Apartments, New Orleans, LA

The Saulet Apartments, New Orleans, LA

Town Oaks Apartments, Shreveport, LA

University Edge Apartments, Hattiesburg, MS

Legacy Condominiums Phase I, Gulfport, MS

Legacy Condominiums Phase II, Gulfport, MS

South Beach Condominiums, Biloxi, MS

Hotels

Super 7 Motel, Lafayette, LA

Harrah's Hotel, New Orleans, LA

Candlewoods Suites Hotel, Houma, LA

Candlewoods Suites Hotel, Lafayette, LA

Hyatt House Hotel, Columbus, MS

Hampton Inn, Harahan, LA

Hampton Inn, Metairie, LA

Hampton Inn Convention Center, New Orleans, LA

Hampton Inn Uptown, New Orleans, LA

Hampton Inn, Mobile, AL

Courtyard by Marriott, Metairie, LA, Baton Rouge,

Residence Inn, Metairie, LA

Quality Inn, Opelousas, LA

LaQuinta, Slidell, LA

Historic French Market Inn, New Orleans, LA

Wyndham Hotel, Metairie, LA

Holiday Inn Superdome, New Orleans, LA

Hilton Garden Inn, Kenner, LA

Hilton Garden Inn LA

Office Buildings

Xerox Centre, Kenner, LA

Park Tower, Lafayette, LA

Former Stewart Enterprises Building, Metairie, LA

First NBC Building, New Orleans, LA

Executive Plaza, New Orleans, LA

Chase Tower, Houma, LA

Maison Blanche Building, New Orleans, LA

Yenni Office Building, Harahan, LA

Dominion Tower, New Orleans, LA

Elmwood Tower, Harahan, LA

Freeport-McMoran Building, New Orleans, LA

Entergy Building, New Orleans, LA

1250 Poydras Building, New Orleans, LA

Subdivisions

Ashton Plantation, Luling, LA

Acadiana Subdivision, Marrero, LA

Acadian Villas, Marrero, LA

The Arbors at English Turn, New Orleans, LA

Plantation Acres, Thibodaux, LA

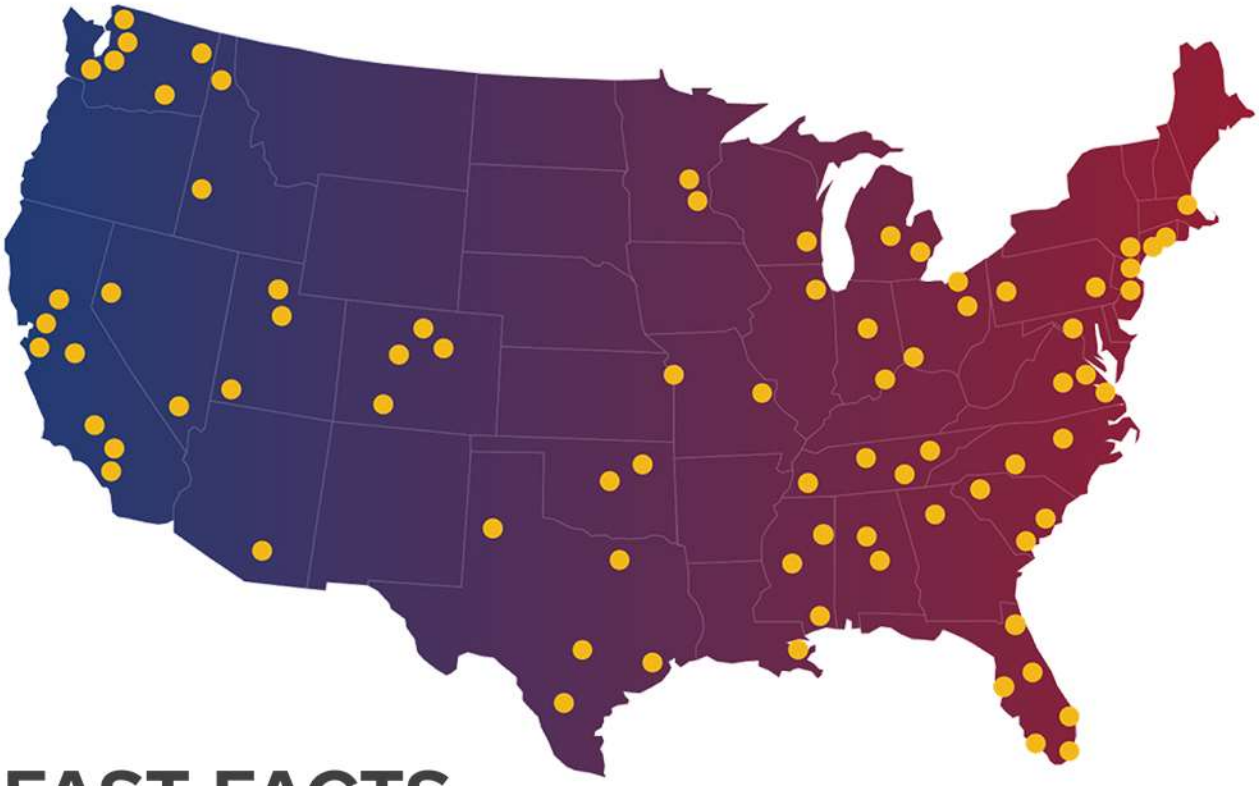
Woodstone Subdivision, Mandeville, LA

Southlake Villages, Kenner, LA

Village Green Subdivision, Harvey, LA

Oak Island Subdivision, New Orleans, LA

Valbridge
PROPERTY ADVISORS



FAST FACTS

COMPANY INFORMATION

- Valbridge is the largest independent national commercial real estate valuation and advisory services firm in North America.
  - Total number of MAI-designated appraisers: 200+ on staff
  - Total number of office locations: 70+ across U.S.
  - Total number of staff: 675+ strong
- Valbridge covers the entire U.S. from coast to coast.
- Valbridge services all property types, including special-purpose properties.
- Valbridge provides independent valuation services. We are not owned by a brokerage firm or investment company.
- Every Valbridge office is led by a senior managing director who holds the MAI designation of the Appraisal Institute.
- Valbridge is owned by our local office leaders.
- Valbridge welcomes single-property assignments as well as portfolio, multi-market and other bulk-property engagements.

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Each Valbridge office is independently owned and operated.