

AN AUDIT OF THE:

Premier Magnesia Contract

COUNTY AUDIT DEPARTMENT

REPORT #448

4/30/2026



VICTOR D. CRIST

CLERK OF CIRCUIT COURT & COMPTROLLER
HILLSBOROUGH COUNTY, FL

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VICTOR D. CRIST

CLERK OF CIRCUIT COURT & COMPTROLLER
HILLSBOROUGH COUNTY, FL

The Honorable Ken Hagan, Chair
The Honorable Chris Boles
The Honorable Donna Cameron Cepeda
The Honorable Harry Cohen
The Honorable Christine Miller
The Honorable Gwen Myers
The Honorable Joshua Wostal

April 30, 2026

Dear Commissioners:

The Audit Team conducted an audit of the Premier Magnesia Contract (**Audit Report #448, dated April 30, 2026**). Responses to the Audit Team's recommendations were received from the Director of the Water Resources Department and have been included in the Report after each audit comment and recommendation.

The purpose of this Report is to furnish management with an independent, objective analysis, and information concerning the activities reviewed. It is not an appraisal or rating of management.

Although the Audit Team exercised due professional care in the performance of this audit, this should not be construed to mean that unreported noncompliance or irregularities do not exist. The deterrence of fraud and/or employee abuse is the responsibility of management. Audit procedures alone, even when carried out with professional care, do not guarantee that fraud or abuse will be detected.

I appreciate this opportunity to be of service to the Board of County Commissioners. I am happy to address any questions that you may have or furnish additional information if desired.

Sincerely,

Heidi Pinner

Heidi Pinner, CIA CISA CFE CRMA
Chief Audit Executive, Clerk of Court & Comptroller

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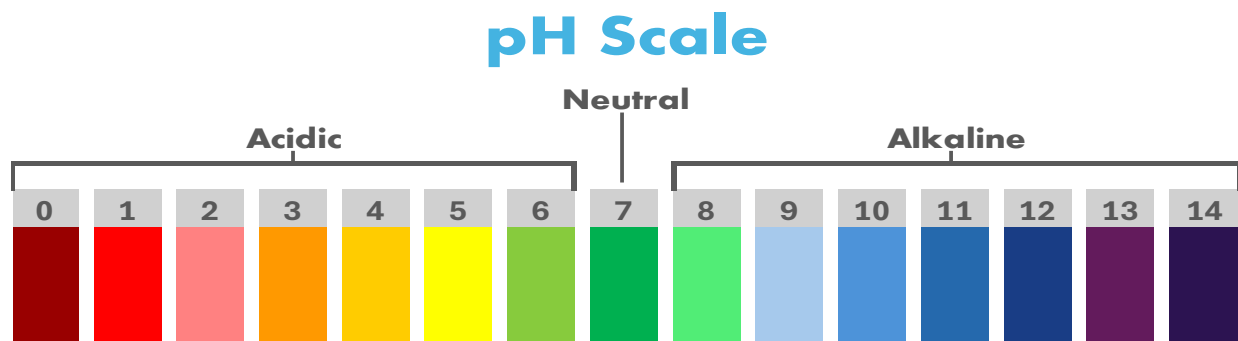
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EXECUTIVE SUMMARY

BACKGROUND INFORMATION

On April 15, 2020, the Hillsborough County Board of County Commissioners (BOCC) awarded a one-year sole source contract to Premier Magnesia, LLC for the continued, ongoing, and as-needed supply of Thioguard technical grade magnesium hydroxide slurry at a total cost of \$1,126,874.78. A First Modification Agreement, approved on March 3, 2021, extended the contract for an additional 18 months and increased the total contract amount to \$2,926,874.78, representing an increase of \$1,800,000.00. On March 2, 2022, a Second Modification Agreement was approved, extending the contract for an additional five years and raising the total contract value to \$10,566,348.78, an increase of \$7,639,474.00. On November 5, 2025, a Third Modification Agreement was approved, which updated the pricing conversion factor initially introduced in the First Modification from 12.7 wet lbs. per gallon to 12.72 wet lbs. per gallon, to better represent the density of the product being delivered to the County.

Thioguard is a white, milky chemical used to treat wastewater that comes from sinks, showers, storm drains, and from flushing toilets. Wastewater produces a corrosive, acidic gas with a low pH level called hydrogen sulfide that causes respiratory distress, eye irritation, headaches, dizziness, and nausea. At elevated concentrations, it can lead to loss of consciousness and ultimately death from respiratory paralysis. Therefore, effective control of this gas is essential to safeguard the health and safety of both the public and County employees. Thioguard is a proprietary product produced and sold by Premier Magnesia, LLC. that reduces the amount of hydrogen sulfide gas, organic odors, corrosion, and FOG (fats, oils, and grease) in municipal wastewater.



The Water Resources Department manages several wastewater feed point locations throughout the County where Thioguard is stored in tanks and is pumped into wastewater as the wastewater flows through a system of large pipes. Each feed point has a plastic liquid tank with capacities ranging from 1,100 to 4,000 gallons, depending on the site. A pump draws Thioguard from the tank and pumps it into the wastewater at a certain flow rate as determined by Water Resources based on overall conditions. Thioguard raises the pH of the wastewater, keeping hydrogen

sulfide in the liquid phase, controlling odor emission, and helping protect infrastructure by minimizing acid-related corrosion.

OBJECTIVE

The objective of the audit is to determine whether or not there are effective controls to manage Hillsborough County's needed purchases of Thioguard technical grade magnesium hydroxide slurry for the Water Resources Department (WRD). This includes contract compliance, invoicing & payments, utilization management, and acceptable services rendered.

SCOPE

The audit was conducted in conformance with the *Global Internal Audit Standards*. These Standards require that County Audit plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for the audit comments and conclusions based on the audit objectives. County Audit believes that the evidence obtained provides this reasonable basis.

The Audit Team conducted observations, interviews, and reviewed supporting documents related to the County's contract with Premier Magnesia as of December 2025. Tests were performed in order to determine whether or not invoices were accurate & paid timely and adequate contract management is being performed. Additionally, the Audit Team contacted municipalities and conducted surveys across Florida to determine best practices. Specific testing date ranges are detailed in the applicable Audit Comments.

OVERALL EVALUATION

PROCESS STRENGTHS AND SUCCESSES

- Hillsborough County Water Resources has an effective process to apply Thioguard slurry to reduce wastewater corrosivity.
- Invoice payments to the vendor are being made timely.
- The County's average cost-per-gallon is reasonably similar to other municipalities.

CONTROL IMPROVEMENT OPPORTUNITIES/RISKS

- Opportunities exist to improve the invoice supporting documentation and accuracy.
- Opportunities exist to improve the ability for County employees to declare any potential conflicts of interest.
- Although monthly performance reports are not mandated by the contract, there are opportunities to enhance and standardize these reports to improve accuracy and efficiency.

Full testing results are included on page 7 of this Report.

OPINION

Control Maturity Levels



The overall control environment relative to the Water Resources Department’s management of the Premier Magnesia Contract is at a formal maturity level. This rating signifies that management has implemented well-defined internal controls and monitoring methods to help ensure general satisfactory performance of the vendor. There may be opportunities to improve invoice supporting documentation, streamline processes, and improve the control environment.

The exit conference was held with County leadership on April 2, 2026.

Other minor concerns not included in this Report were communicated to management and/or corrected during fieldwork.

AUDITED BY

Heidi Pinner, CIA, CISA, CFE, CRMA, Chief Audit Executive
 Ben Everett, CPA, CIA, CFE, CISA, Audit Manager
 Shane Sandie, Internal Auditor

AUDIT COMMENT 1: INVOICING AND PAYMENTS

**37 INVOICES
REVIEWED
6 EXCEPTIONS
IDENTIFIED**

**HISTORICAL PAY
INCREASES HAVE
OUTPACED
CPI & PPI**

**FIRST
MODIFICATION
REFERENCES
INCORRECT
CONVERSION
FACTOR**

Invoices were paid timely and contained supporting documentation; however, minor opportunities exist to improve the invoicing process. Additionally, the County’s pay increase methodology appears to slightly benefit Premier Magnesia.

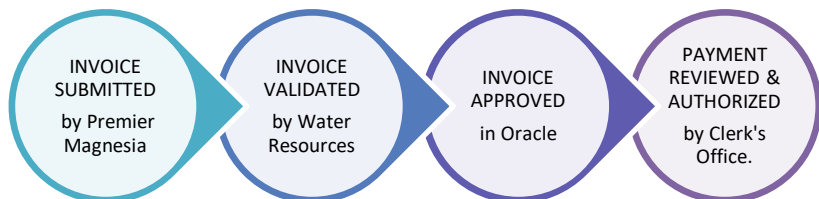
The objective was to determine whether or not the controls over the invoice processing and payments made to the vendor are working effectively.

Background

Thioguard is delivered to the feed points via tanker trucks. Premier Magnesia utilizes a sub-contractor, Mule-Team Transport, for these deliveries. Each feed point is assigned to one of three service areas within Hillsborough County: Central, North, or South, and each service area must be invoiced separately.

Feed Point Location	Area
Falkenburg #1	Central
Kensington Ridge	Central
Mt. Carmel	Central
Parson's Master	Central
Valrico #1	Central
Racetrack Road	North
Tidal Bay	North
Big Bend	South
College Avenue	South
Miller Mac	South
Mira Bay	South
West Lake	South

Deliveries are made in gallons, but invoicing is based on a unit of measure called wet-pounds. To determine the wet-pounds invoiced, a conversion factor of 12.7 was established in the First Modification of the contract. The number of gallons delivered is multiplied by this conversion factor to determine the quantity of wet pounds billed at the unit price.



Unit price increases under the contract have historically occurred through contract modifications. The initial contract set the price at \$0.224 per wet-pound of Thioguard, effective April 15, 2020. The current unit price is \$.28 per wet pound, a 25% increase over the life of the agreement.



First Modification: Increased the price by \$0.021, resulting in \$0.245 per wet-pound, effective April 15, 2021, through October 15, 2022.

Second Modification: Included two increases: First increase of \$0.019, resulting in \$0.264 per wet-pound, effective October 15, 2022, through October 14, 2024. Second increase of \$0.016, resulting in \$0.28 per wet-pound, effective October 15, 2024, to the present.

While the Contract does not explicitly reference the U. S. Bureau of Labor Statistics’ (BLS) Consumer Price Index (CPI) or Producer Price Index (PPI), Water Resources takes these indexes into consideration when evaluating price changes. Each of these indexes has various different data sets for different industry commodity classifications known as series IDs.

TEST PROCEDURE

Three unique test steps were performed.

Invoice Testing

The Audit Team reviewed a sample of Premier Magnesia invoices for the period of January 2025 through July 2025. A total of 183 invoices were issued during this period. The Audit Team selected a judgmental sample of 37 invoices (20%), and for each month in the period, tested a mix of the highest, lowest and mid-range invoices. Each invoice was reviewed and tested to determine whether or not it had been paid accurately, properly approved, and if payments were made timely based on the Florida Prompt Payment Act.

Total Contract Expenditure Testing

The Audit Team performed re-calculations based on available Oracle data to compare total contract expenditures to the amount the County should have incurred using the contractual pricing factor of 12.7, as stated in the First Modification Agreement. The Audit Team also noted that the most recent Third Modification Agreement references a pricing factor of 12.72, which appears to be the intended factor. The current Oracle system was implemented in late 2022. Therefore, testing covered the period from October 16, 2022 through the end of the audit scope period on August 26, 2025.

Pay Increase Testing

The Audit Team obtained and reviewed all pay increase data related to the contract. Pay increases under this contract were driven by the First and Second Modification Agreements. The Audit Team compared the increases to those which would have occurred if tied to the CPI (series ID# CUSR0000SA0, All Urban Consumers CPI-U) and/or the PPI (series PCU325---325---) to evaluate the reasonableness of the increases overall.

TESTING RESULTS

Invoice Testing

Of the 37 invoices tested, 6 (16%) contained one or more exceptions. Some invoices contained multiple issues; however, each invoice was counted as a single exception for testing and documentation purposes. The issues identified are summarized below:

Ambiguous Location Identifiers:

Two invoices (5%) listed locations as “#1” but did not specify if that was referring to the Falkenburg #1 site or Valrico #1.

Billing Unit Errors:

Five invoices (14%) were billed based on gallons rather than wet-pounds, resulting in the County underpaying the vendor. It appears that the number of gallons was not multiplied by the conversion factor to properly calculate the number of wet-pounds that should have been billed.

Billing Rate Errors:

During preliminary testing, the Audit Team determined that the conversion factor being used was 12.72 rather than the 12.7 which was contracted. The Audit Team’s inquiry into this rate resulted in the Third Modification to the agreement in November 2025 which adjusted the contracted rate to reflect the rate of 12.72 that Water Resources and Premier Magnesia were already using.

Total Contract Spend

For the period from October 16, 2022, through August 26, 2025, there were total payments of \$3,467,134.59 on the agreement. Prior to the First Modification on October 16, 2022, a conversion factor had not been specified in the agreement. The First Modification specified the factor as 12.7 per wet pound. However, Water Resources applied a factor of 12.72, resulting in an overpayment to the vendor of \$5,451.47 over the three-year period. The County should have paid \$3,461,683.12 using the factor of 12.7.

The Audit Team also reviewed three invoices dated during the original contract period (April 15, 2020 through March 3, 2021). This period had no conversion factor defined, but a factor of 12.28 appeared to be used throughout the period.

Pay Increase Testing

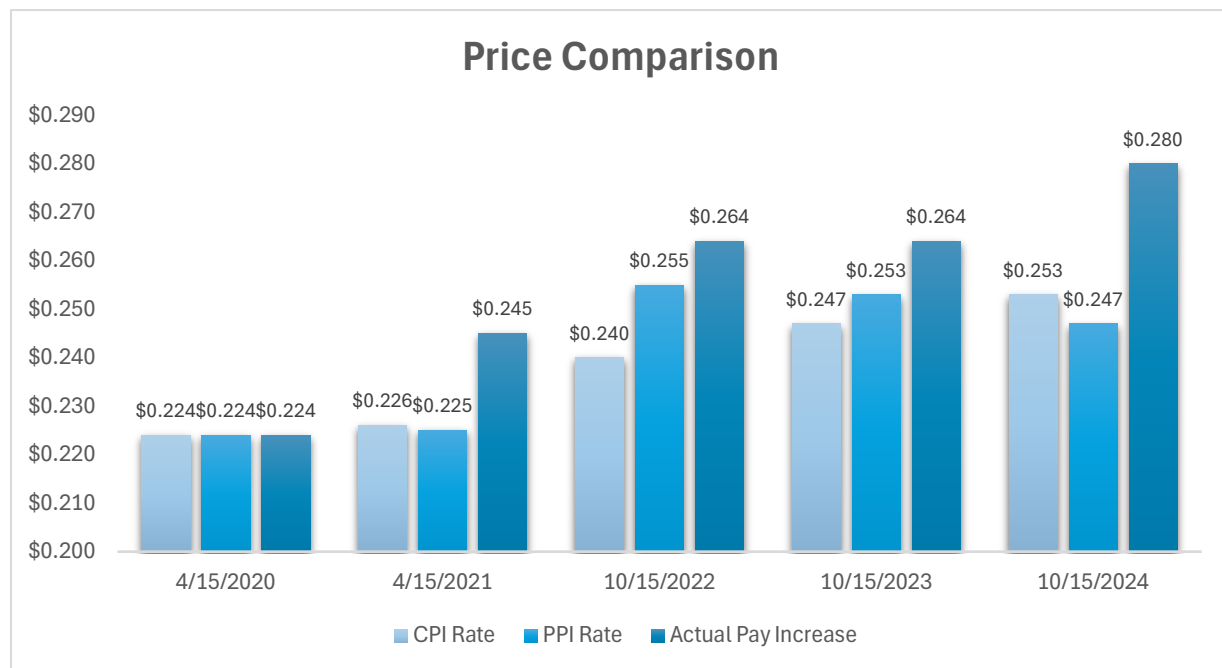
The initial Contract and its subsequent modifications do not specify a particular index, such as CPI or PPI, for pay increases. Instead, pay adjustments have historically been determined through

contract modifications. Many County contracts have periodic pay increases based on CPI inflation rate data. Based on the fieldwork conducted, it appears that the First and Second Modifications have resulted in pay increases that are slightly more favorable to Premier Magnesia compared to what would have occurred under standard CPI or PPI indexing.

Currently, the rate per wet-pound of Thioguard is \$0.28. By contrast, if the rates had followed CPI adjustments, the current rate would be \$0.253; and if indexed to PPI, it would be \$0.247.

From January 2025 through July 2025, 183 invoices were paid at the \$0.28 rate for a total of \$619,857.28. This calculates to 2,213,776 wet-pounds at \$0.28. The table below shows the amount that would have been paid during this period if the rate was adjusted based on CPI or PPI, and the following graph shows the price fluctuation over time.

JANUARY-JULY 2025 INVOICES			
Actual Total of Invoices Paid	Total Wet-Pounds	Cost If PPI Rate Used \$0.247	Cost If CPI Rate Used \$0.253
\$619,857.28	2,213,776	\$546,802.67	\$560,085.33
	DIFFERENCE:	\$73,054.61 less	\$59,771.95 less



RECOMMENDATION

The Water Resources Department should enhance their invoice and payment processing controls to ensure that:

1. All supporting documentation is complete and clearly lists the names of the locations in which Thioguard was delivered.
2. The appropriate and intended conversion factor is applied to calculate the number of wet-pounds billed.
3. Proper conversions from gallons to wet-pounds are performed.

CLIENT RESPONSE:

Concur.

CORRECTIVE ACTION PLAN:

Water Resources management met with Premier Magnesia on 04/27/2026 to address these recommendations. They informed us these items had been addressed internally at Premiere Magnesia in the latter half of 2025, and they will continue to monitor to ensure accuracy and consistency when invoicing Hillsborough County.

Water Resources has implemented a formalized pre-payment QA/QC review process to verify billed quantities, unit rates, conversion calculations, and compliance with contract terms prior to invoice approval; require complete and accurate supporting documentation with each invoice and withhold approval of incomplete or non-compliant submissions; utilize a standardized review checklist and document QA/QC approval to establish a clear audit trail; provided refresher guidance to staff responsible for invoice review; and conduct periodic spot checks of processed invoices to ensure ongoing compliance and identify any recurring discrepancies.

TARGET COMPLETION DATE:

Completed.

AUDIT COMMENT 2: CONTRACT MANAGEMENT

CONTRACT HAS LIMITED SCOPE DETAILS

1 CONFLICT OF INTEREST HAD NOT BEEN OFFICIALLY DISCLOSED

MANUAL MEASUREMENT PROCESSES COULD RESULT IN MINOR DISCREPANCIES FOR THE VALUES BEING BILLED

Opportunities for improvement exist to enhance the overall management of the Contract with Premier Magnesia.

The objective was to determine whether or not there are effective controls in place to monitor the procurement of contracts and overall contract management.

Background

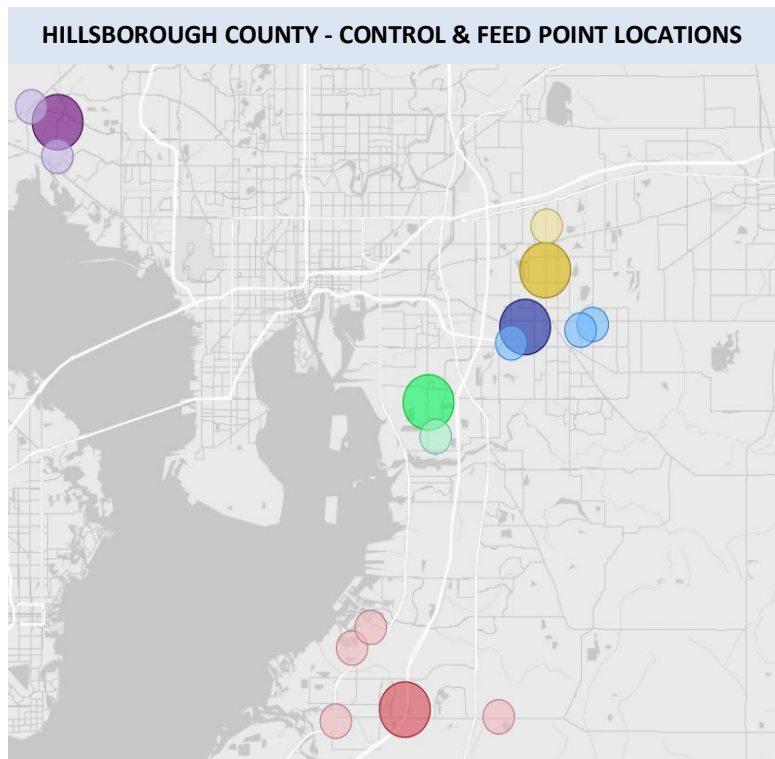
A sole source contract is an agreement awarded to a single vendor without a competitive bidding process, typically justified when only one vendor can provide the required goods or services due to unique qualifications, proprietary products, or specialized expertise. In contrast, a Request for Proposal (RFP) contract is established through a competitive process where multiple vendors submit proposals in response to a formal solicitation, and the award is based on predefined evaluation criteria such as technical approach, qualifications, and pricing. Both methods require documentation to ensure compliance with applicable County procurement requirements. Premier Magnesia is classified as a sole source contract because the company is the only vendor authorized to provide its proprietary product, Thioguard.

Whenever a sole source agreement is awarded to a vendor, the County publicly publishes a document called a Notice of Intent to Sole Source, which is meant to provide a public notice that a sole source was awarded. The Notice of Intent to Sole Source includes an overview of the agreement, including the name of the vendor, the product or service to be provided, and how the public or other vendors may submit a response or a protest to the sole source. In the case of the Premier Magnesia sole source award, a protest was received from a competing firm stating that they supply a comparable product. The County declined the challenge in order to avoid disrupting supply operations and because wastewater treatment products must undergo testing before being implemented. The introduction of untested chemicals into the collection system can damage the wastewater system.

The agreement with Premier Magnesia did not utilize a typical legal contract that the County often uses with vendors, which contains standard legal clauses such as how a contract may be terminated, insurance requirements, severability, and how to resolve disputes. Instead, the agreement consisted of sole source procurement documentation, including the protest that was received. The Notice of Intent to Sole Source was originally for a 5-year timeframe. However, this was reduced to a 1-year term in response to the sole source protest. The Board agenda item cover page included a statement that the Water Resources Department would competitively solicit products and arrange for testing in the coming months.

Thioguard is manufactured in Manistee, Michigan, and shipped by rail to Florida, where it is transloaded from rail tanker cars into tanker trucks for delivery to the County. Deliveries are scheduled based on usage rates and available tank capacity at the feed points to ensure adequate and continuous supply for treatment operations. Each feed point site is equipped with a Thioguard storage tank supplied by Premier Magnesia, with tank capacities ranging from 1,100 to 4,000 gallons. Thioguard is injected into the wastewater stream, which flows below the feed point. The pump rate can be adjusted to increase or decrease the amount of Thioguard as needed, based on Water Resources’ desired rate. Feed points are located downstream from other facilities known as control points, where Water Resources monitors and manages hydrogen sulfide levels.

This map shows the geographic distribution of Control Points (larger, darker-colored bubbles) and their associated Feed Points (smaller, lighter-colored bubbles) across Hillsborough County. Each set of Feed Point(s) is color-matched to its corresponding Control Point to indicate their relationship.



As of March 28, 2025, the five (5) Feed Points for the South County Regional Station control point, (shown in red on the map) are offline due to planned renovations at the South County Regional Station. Originally, the way in which wastewater entered the South County Plant was similar to a waterfall. This caused turbulent water conditions and ultimately released an excessive amount of hydrogen sulfide gas. Once the renovations are completed, the wastewater should be able to flow into the Plant with significantly less turbulence. These renovations should also help eliminate the need for the Control/Feed Points located in South County, which is expected to

ultimately provide a cost savings for the County and reduce the expenditures relative to the Premier Magnesia agreement.

TEST PROCEDURE

Contract Procurement Review

The Audit Team made inquiries with Hillsborough County Procurement and the Water Resources Department regarding the initial Contract and First Modification with Premier Magnesia to determine whether an evaluation was conducted of the bid protestor, whether a reassessment of the contract occurred during the First Modification, whether the contract renewal included a Notice of Intent to Sole Source, and whether other vendors were provided an opportunity to submit bids. Additionally, the Audit Team inquired with Pinellas County, which also has a contract with Premier Magnesia, to determine how many other bidders participated when Premier Magnesia was previously awarded a 5-year contract through their RFP process.

Contract Management

The Audit Team performed a site visit and a review of the monthly performance reports submitted to the County by Premier Magnesia.

Site Visit Testing - The Audit Team visited the Kensington Ridge feed point site during a truck delivery and observed and documented the number of gallons of Thioguard delivered, the delivery schedule, the method used by the driver to confirm the quantity delivered, the process for determining when tanks were low or empty, and any challenges encountered by drivers in performing these tasks under the contract.

Performance Report Analysis - The Audit Team requested all performance reports submitted by Premier Magnesia to the Water Resources Department, conducted an analytical review of reports for the timeframe of January 2025 through July 2025, and followed up on any discrepancies identified during the review. It should be noted that these reports are not a contractual requirement. Performance Reports are used to determine how well the County is managing the hydrogen sulfide levels by providing a snapshot in time.

Conflict of Interest Review

During preliminary audit inquiries, the Audit Team found that there was a familial relationship between Premier Magnesia and a Water Resources employee. The Audit Team reviewed the County's conflict of interest process to determine if an appropriate disclosure had occurred. The Audit Team also inquired with Human Resources to determine whether or not there are satisfactory processes in place for new hires to disclose any conflicts of interest during onboarding.

TESTING RESULTS

Contract Procurement Review

Following the public posting of the Notice of Intent to Sole Source, a bid protest was received from an unsuccessful bidder. In accordance with the initial contract documentation, the County was to conduct a formal evaluation in response to the bid protest and committed to a re-evaluation of the contract after one year. Water Resources performed this evaluation and found that the bid protestor manufactures a proprietary calcium-based slurry product that they deliver via large tractor-trailers with tanks that are 20 feet tall. Due to the size and configuration of these vehicles, access to the feed point sites would not have been feasible, as the sites are primarily located within residential areas. Additionally, the County's existing infrastructure is configured for the use of Thioguard, and transitioning to a calcium-based product would have resulted in a pH level of 12-13 which is too high, as current infrastructure is not designed to accommodate this type of product. Water Resources also found very few case studies and references of the bid protestor's product being used. Overall, this evaluation determined that the bid protestor's product could not be used.

However, the current contract with Premier Magnesia is set to expire in 2027, and the County is in the process of conducting a comprehensive, competitively procured study to evaluate potential alternative vendors for wastewater treatment services.

Inquiries were made with the Pinellas County Purchasing Department in regards to their current Contract with Premier Magnesia. According to Pinellas County, Premier Magnesia was the only vendor to provide a bid. Pinellas County currently has a new 1-year sole-source agreement with Premier Magnesia, but is in the process of conducting pilot testing with similar vendors. They indicated that they would be open to joining with Hillsborough County to form a cooperative study.

Overall, the Audit Team concluded that:

- The County did perform a re-evaluation of the alternative product as indicated in the initial contract award and determined that Thioguard was an appropriate use of the sole source procurement method.
- The initial contract with Premier Magnesia and subsequent modifications omit the standard contract boilerplate language.
- No reference to a CPI or PPI price escalation and de-escalation clause are in the agreement, though these are considered by management prior to contract modifications.

Contract Management – Site Visit Testing

On September 10, 2025, the Audit Team performed a site visit at the Kensington Ridge feed point location to observe the delivery of Thioguard from Premier Magnesia. The Audit Team observed that the methods used to record the amount of Thioguard being delivered are somewhat imprecise and the manual process is susceptible to error and inaccuracy.

Determining the initial amount of Thioguard in the feed point tank is challenging and requires some visual estimation due to the milky-white color of Thioguard and the similarly colored Feed Point tank. This may result in a slightly inaccurate reading of the total amount. Having an accurate account of how much Thioguard is within a tank is essential for billing purposes. However, based on the Audit Team’s observations and judgement, any inaccuracies would appear to be relatively immaterial.



Likewise, determining how much Thioguard has been delivered is also challenging as the only way to tell is to perform a visual estimate based on the tank’s measuring marks. The Audit Team observed that the tanker truck had no way of gauging how much Thioguard was being dispensed. Ideally, the tank would have a way to automatically monitor how much Thioguard is on board pre and post delivery to confirm the actual amounts delivered.



Contract Management – Performance Report Analysis

The Audit Team identified several months of reports which contained data that appeared mathematically inconsistent and may have been duplicated from prior periods. For example, the reported gallons delivered to each Feed Site remained identical across several months, which may be due to a copy-and-paste error. It appears old values were left in subsequent reports and were not updated to reflect each month's actual number of gallons. This appeared to result in inaccurate gallons-per-day, cost-per-day, and cost-per-year calculations in the reports.

Conflict of Interest Review

The Audit Team found there was a familial relationship among three individuals associated with Premier Magnesia and/or Public Utilities. A current Public Utilities employee (Employee A) was hired in 2025, is a former 17+ year employee of Premier Magnesia, and has an immediate family member who was employed by the Company. Additionally, Employee A's wife (Employee B), also works for the Water Resources department and was hired in early 2023, while her husband (Employee A) was still employed with Premier Magnesia.

- Employee B did submit a disclosure in July 2024 stating that her husband and her father-in-law work for Premier, that Premier Magnesia supplied products to Water Resources, that she has no interaction with the vendor, and that the Division Director was aware of this before she was hired by the County.
- The Water Resources Department is comprised of several divisions, each with its own Division Director. The Audit Team was able to confirm that Employee A & B work under different managers and are not within the same chain of command.
- The Audit Team met with Water Resources and confirmed that the employees who have a familial relationship with the vendor representative do not have any involvement with the Contract for Premier Magnesia. Water Resources also advised that the father-in-law has since retired from Premier Magnesia.
- The Human Resources Department advised that when new employees are onboarded, they must sign an acknowledgement of the County's policy requiring disclosure of any conflicts of interest. Employee A did sign the acknowledgement form, but did not disclose the potential conflict of interest.

RECOMMENDATION

Water Resources should:

1. Work with Premier to streamline and make any necessary updates to the performance reports to ensure accurate reporting. While these forms are not a contractual requirement, they do produce actionable information and should remain accurate.
2. Perform spot checks of the monthly performance reports to verify the accuracy.

3. Correct prior reports with inaccurate figures.
4. Ensure that future employees are prompted to disclose any potential conflicts of interest as it relates to vendors the County does business with as part of the department's interview and onboarding processes.
5. Periodically remind employees of their obligation to disclose any new or existing conflicts of interest throughout employment and/or when operational contracts are adopted.

CLIENT RESPONSE:

Concur.

CORRECTIVE ACTION PLAN:

Water Resources management met with Premier Magnesia on 04/27/2026 to address these recommendations. They informed us these items had been addressed internally at Premiere Magnesia in the latter half of 2025, and they will continue to monitor to ensure accuracy and consistency when reporting to Hillsborough County.

Water Resources has implemented a formalized review process to ensure reports contain accurate and reliable information. Refresher guidance has been provided to all staff responsible for report review, and periodic spot checks are now conducted on processed reports to ensure ongoing compliance and to identify any recurring discrepancies. In addition, Water Resources has determined not to correct previous reports as it has no effect on current or future information and/or reports.

Water Resources is also revising its interview and onboarding processes to incorporate prompts for prospective employees to disclose any potential conflicts of interest.

TARGET COMPLETION DATE:

Completed.

AUDIT COMMENT 3: BEST PRACTICES

**27 MUNICIPALITIES
CONTACTED
10 RESPONSES
RECEIVED**

**HILLSBOROUGH
COUNTY COST PER
GALLON OF
THIOGUARD IS
PRICED BELOW
AVERAGE**

**BEST PRACTICES
IDENTIFIED**

The objective was to explore industry best practices for processes related to reducing hydrogen sulfide gas within the wastewater system.

Background

Municipal wastewater treatment facilities across Florida rely on a variety of chemical and biological processes to meet regulatory requirements and protect public health and the environment. Treatment programs commonly incorporate oxidants, precipitants, pH adjusters, and biochemical agents as part of routine operations, depending on system needs.

The effective management of these treatment approaches is essential to maintaining water quality, safeguarding Florida’s sensitive aquatic ecosystems, protecting groundwater resources, and controlling the generation of hydrogen sulfide gas. Proper wastewater treatment supports regulatory compliance, operational reliability, odor and corrosion control, and overall risk mitigation for Florida municipalities.

TEST PROCEDURE

The Audit Team performed best practices research to gain an understanding of how comparable Florida counties and municipalities structure and manage their wastewater treatment programs. A judgmental sample of counties and municipalities within Florida was selected for comparison purposes.

For each selected jurisdiction, the Audit Team contacted appropriate representatives to obtain an overview of their wastewater treatment program, including the type of treatment utilized (e.g., oxidants, precipitants, pH adjusters, or biochemical agents). For jurisdictions utilizing pH adjusters (such as Thioguard), additional inquiries were conducted to obtain more detailed information.

These inquiries included, where available, a review of the related contract; an assessment of whether the contract was competitively procured or sole sourced, including

identification of other bidders when applicable; and an evaluation of key contract terms such as pricing, contract duration, and overall satisfaction with vendor performance. The Audit Team also inquired about any lessons learned or best practices identified by the jurisdiction. All information obtained during this process was documented and analyzed to identify relevant best practices and benchmarking considerations.

TESTING RESULTS

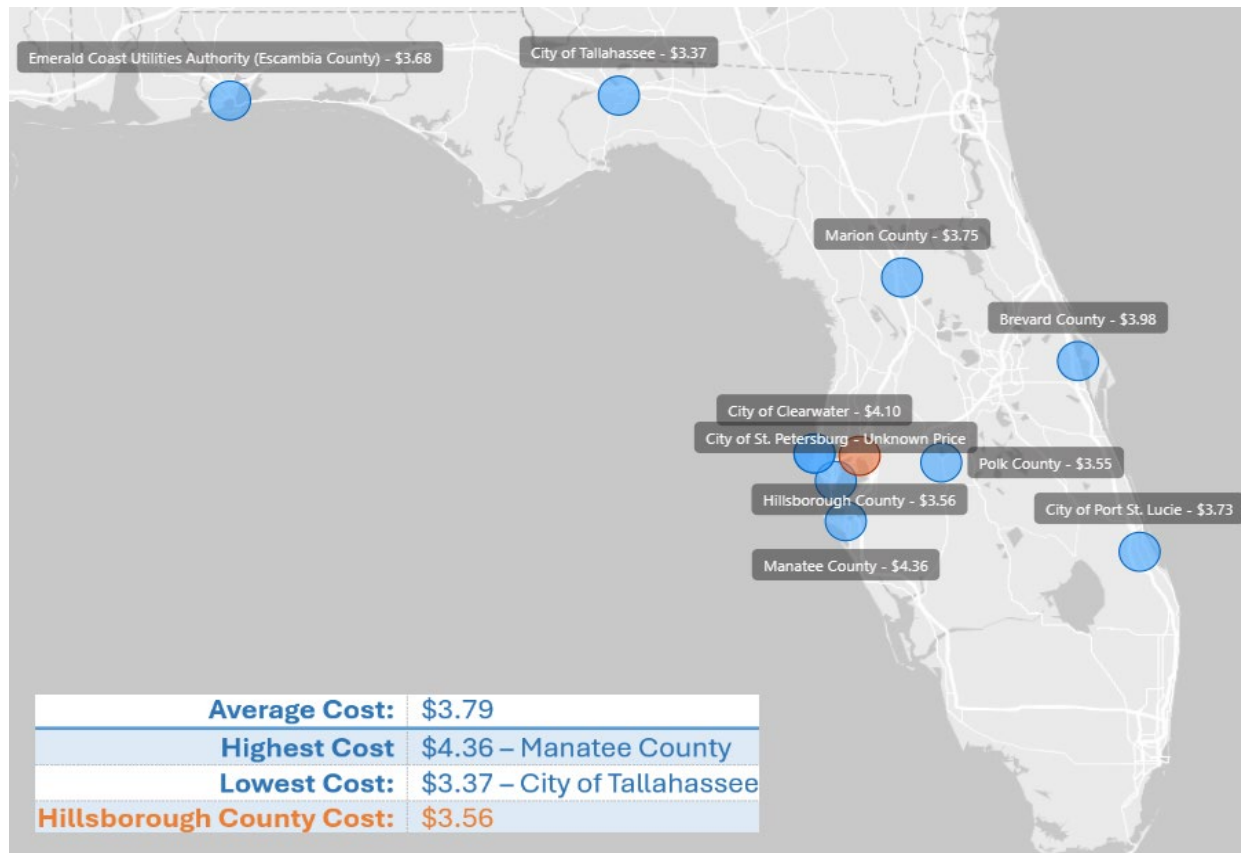
The Audit Team made efforts to contact the following twenty-seven (27) municipalities that potentially have a contract with Premier Magnesia: **Brevard County**, City of Bradenton, **City of Clearwater**, City of Fort Myers, City of Gainesville Regional Utilities (GRU), City of Hialeah, City of Key West, City of Lakeland, City of Largo, City of Orlando, **City of Port St. Lucie**, City of Sanford, **City of St. Petersburg**, **City of Tallahassee**, City of Tampa, City of Temple Terrace, City of West Palm Beach, **Emerald Coast Utilities Authority (ECUA) in Escambia County**, Hernando County, **Manatee County**, **Marion County**, Pasco County, **Pinellas County**, **Polk County**, Sarasota County, Seminole County, and St. Johns County.

*Note: The Audit Team obtained responses from the ten (10) **bolded** municipalities above.*

MUNICIPALITY	TREATMENT TYPE	VENDOR	CONTRACT TYPE
Hillsborough County	pH Adjuster (Thioguard)	Premier Magnesia	Sole Source
Brevard County	pH Adjuster (Thioguard)	Premier Magnesia	Sole Source
City of Clearwater	pH Adjuster (Thioguard)	Premier Magnesia	Sole Source
City of Port St. Lucie	pH Adjuster (Thioguard)	Premier Magnesia	Sole Source
City of St. Petersburg	pH Adjuster (Thioguard)	Premier Magnesia	Sole Source
City of Tallahassee	pH Adjuster (Thioguard)	Premier Magnesia	Sole Source
ECUA	pH Adjuster (Thioguard)	Premier Magnesia	Sole Source
Manatee County	pH Adjuster (Thioguard)	Premier Magnesia	Request for Proposal (RFP)
Marion County	pH Adjuster (Thioguard)	Premier Magnesia	Sole Source
Pinellas County	pH Adjuster (Thioguard)	Premier Magnesia	Sole Source
Polk County	pH Adjuster (Thioguard)	Premier Magnesia	Sole Source

The following graphic shows a price comparison in terms of cost per gallon of Thioguard. Some municipalities use different units of measure for billing purposes, such as wet-pounds, dry-pounds, or simply gallons. The Audit Team mathematically determined the cost per gallon for easier comparison, regardless of any conversion factors or other units of measure used by each municipality. The City of St. Petersburg’s cost per gallon could not be clearly determined due to their invoices not showing the number of gallons delivered or the conversion factor used.

PRICE PER GALLON OF THIOGUARD



During fieldwork, the Audit Team observed that all municipalities maintained some form of contractual documentation; however, the level of detail and clarity varied. Some municipalities had comprehensive contracts with clearly defined scopes of work, while the majority of others, including Hillsborough County, relied on more limited contractual documentation. The Audit Team believes this information may be useful to Hillsborough County when considering the overall scope and structure of its contracts in the future, as clearly defined contract scopes help establish roles, responsibilities, expectations, and reduce the risk of potential misunderstandings. The Audit Team identified that the following municipalities maintain comprehensive contracts with clearly defined scopes of work and expectations from the vendor:



The agreement between the City of Port Saint Lucie and Premier Magnesia specifies that Premier must provide magnesium hydroxide and equipment services for odor and corrosion control.

KEY CONTRACT TERMS

- Product requirements include minimum purity of 98.5%, median particle size not greater than 4.0 microns, and minimum alkalinity of 11.0 pounds per gallon.

- The vendor must maintain the International Organization for Standardization (ISO) 9001:2008 certification and provide proof of origination from U.S. manufactured magnesium chloride brine.
 - Equipment obligations include supplying feed pumps, high-density polyethylene (HDPE) tanks, mixers, and spare pumps at no additional cost.
 - Routine inspections of pumps, hoses, mixers, and electrical components are required twice per month, with gearbox oil changes every six months. Repairs must be completed within four hours of notification.
 - Monthly monitoring includes seven-day Odalog deployments and pH testing, with reports submitted to the City. An Odalog is a piece of test equipment that measures and logs toxic or corrosive substances in wastewater systems.
 - Emergency provisions require priority service during hurricanes or disasters and a 24-hour contact number.
 - Price adjustments are allowed annually based on the Producer Price Index (PPI), capped at 3.5%.
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The agreement between Manatee County and Premier Magnesia requires Premier to furnish all personnel, materials, chemicals, equipment, permits, and reports necessary for corrosion and odor control services. The scope includes installation and maintenance of storage and dosing systems, with tanks of 1,000 gallons or greater equipped with remote monitoring and shutdown capability.



KEY CONTRACT TERMS

- Routine service visits must occur at intervals not exceeding 15 days and include hydrogen sulfide monitoring, pH measurement, and preventive maintenance.
 - Monthly reports must summarize chemical usage, performance data, and equipment maintenance.
 - The vendor must provide annual workshops for County staff and maintain 24-hour availability for emergency response, with same-day standard service and four (4) hour emergency response.
 - Technical specifications require magnesium hydroxide produced from highly reactive magnesium chloride brine, manufactured in the United States, and confirmed by written analysis and ISO certification.
 - Pricing adjustments after the first year are based on the Employment Cost Index (ECI) and/or Producer Price Index (PPI).
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The agreement between Pinellas County and Premier Magnesia requires Premier to supply magnesium hydroxide meeting specified chemical and physical standards.

KEY CONTRACT TERMS:

- Minimum purity of 98.5%, median particle size of 4.0 microns or less, and minimum alkalinity of 11.0 pounds per gallon.
- ISO 9001:2008 certification and proof of origination from U.S. manufactured magnesium chloride brine are required.
- Product specifications must be confirmed annually by a third-party laboratory.
- Equipment obligations include installation of feed pumps, HDPE tanks, mixers, and spare pumps within four weeks of award, with routine maintenance twice per month.
- Delivery requirements include maintaining a minimum inventory of 20,000 gallons at distribution terminals and providing delivery tickets with each shipment.
- Monitoring includes monthly Odalog deployments and pH/H₂S testing at eight (8) designated sites, with reports submitted in Excel format.
- Emergency spill response plans and 24-hour contact numbers must be provided.

RECOMMENDATION

Best Practice research results were provided to management for further consideration. No management response is required.