STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

PROPOSED REVISION TO STATE IMPLEMENTATION PLAN

Pre-Hearing

SUBMITTAL NUMBER 2018-01

REDESIGNATION REQUEST AND MAINTENANCE PLAN FOR THE HILLSBOROUGH COUNTY LEAD (Pb) NONATTAINMENT AREA

February 7, 2018

- Page intentionally left blank. -

Table of Contents

Executive Summary

1. Introduction

The Department of Environmental Protection (Department) is proposing a revision to Florida's State Implementation Plan (SIP) under the federal Clean Air Act (CAA). This SIP revision consists of a request to redesignate the portion of Hillsborough County that was designated as "nonattainment" with respect to the 2008 revised lead (Pb) national ambient air quality standard (NAAQS) to "attainment" and a request to approve an associated maintenance plan that will ensure the continued attainment of the 2008 Pb NAAQS in the nonattainment area (NAA) through at least 2029.

2. Background

On October 15, 2008, the U.S. Environmental Protection Agency (EPA) promulgated a revised NAAQS for the air pollutant Pb. 73 Fed. Reg. 66,964. The level of the revised standard is 0.15 micrograms per cubic meter ($\mu g/m^3$), rolling 3-month average, not to be exceeded. The revised Pb standard is more stringent than the previous standard, 1.5 $\mu g/m^3$, by a factor of ten.

On November 22, 2010 (effective December 31, 2010), EPA designated a small area in Hillsborough County "nonattainment" for Pb based on ambient Pb monitoring data in the area showing one or more violations of the revised standard over the 3-year period 2007-2009. 75 Fed. Reg. 71,033. The designated nonattainment area is described as follows:

> *Tampa, FL: Hillsborough County (part) Area is located within a 1.5 km radius centered at UTM coordinates 364104 meters E, 3093830 meters N, Zone 17, which surrounds the Envirofocus Technologies facility.*

78 Fed. Reg. 71,041. The Hillsborough County NAA is centered on a 55-year old lead recycling facility that was purchased by Envirofocus Technologies, LLC (Envirofocus) in 2006. In 2009, Envirofocus received an air construction permit from the Department authorizing the facility to undergo a complete reconstruction and modernization, implementing a variety of top level controls associated with lead recycling including a negative-pressure total enclosure of all process areas.[1] These controls were compared to the *2012 National Emissions Standards for Hazardous Air Pollutants* (NESHAP) *from Secondary Lead Smelting* (40 C.F.R. Part 63, Subpart X) and were determined to be at least as stringent, and in many cases, far more stringent. This permit formed the basis of the Department's attainment demonstration for the area (NAA plan) submitted to EPA on June 29, 2012. Envirofocus updated the permit in December 2012 to reflect the "as-built" reconstructed facility and the NAA plan was amended on June 27, 2013.[2] EPA approved the NAA plan on April 16, 2015 (effective May 18, 2015). 80 Fed. Reg. 20,441. In 2014, Envirofocus completed construction on the upgraded facility, marking the full implementation of the NAA plan.

3. Clean Data Determination

Attainment of the Pb NAAQS occurs when a monitor has not recorded a 3-month rolling average concentration exceeding the level of the NAAQS in the previous three calendar years. The last 3-month average concentration exceeding the NAAQS in the NAA was recorded in December 2013. Therefore, beginning with the period 2014-2016, all three ambient Pb monitors in the Hillsborough County NAA

[1] *See* air construction permit 0570057-020-AC issued by the Florida Department of Environmental Protection on September 22, 2009.

[2] *See* air construction permit 0570057-027-AC issued by the Florida Department of Environmental Protection on December 14, 2012.

are attaining the 2008 revised Pb NAAQS. EPA notified the Department on May 26, 2017 that the area is attaining the NAAQS and the redesignation process could begin.

4. SIP Development Process

Section 403.061(35), Florida Statutes, authorizes the Department to "exercise the duties, powers, and responsibilities required of the state under the federal Clean Air Act." These duties and responsibilities include the development and periodic updating of Florida's SIP. Pursuant to this statutory authority, the Department has developed this proposed SIP revision.

Pursuant to state administrative procedures and 40 CFR 51.102, on February 7, 2018, the Department published a notice in the Florida Administrative Register (FAR) announcing the opportunity for the public to provide comments, request a public hearing, and participate in a public hearing to be held on March 13, 2018, if requested, regarding the proposed revision to Florida's SIP.

In accordance with the 30-day notice requirement of 40 CFR 51.102, this pre-hearing submittal regarding the proposed SIP revision was transmitted to EPA on February 7, 2018, and posted on the website for the Department's Division of Air Resource Management. At the same time, notice of the opportunity to submit comments, request a public hearing, and participate in the public hearing, if requested, was transmitted to the Department's District offices and Florida's local air pollution control programs.

Redesignation Request

The Department is requesting that EPA redesignate the Hillsborough County Pb NAA to "attainment." EPA's memo *Procedures for Processing Requests to Redesignate Areas to Attainment* discusses the five requirements for redesignation found in CAA Sections 107(d)(3)(E)(i-v): [3]

i. The Administrator determines that the area has attained the national ambient air quality standard;
ii. The Administrator has fully approved the applicable implementation plan for the area under section 7410(k) of this title;
iii. The Administrator determines that the improvement in air quality is due to permanent and enforceable reductions in emissions resulting from implementation of the applicable implementation plan and applicable Federal air pollutant control regulations and other permanent and enforceable reductions;
iv. The Administrator has fully approved a maintenance plan for the area as meeting the requirements of section 7505a of this title; and
v. The State containing such area has met all requirements applicable to the area under section 7410 of this title and part D of this subchapter.

This submittal demonstrates that each of these requirements has been met and that a redesignation of the area to "attainment" is appropriate as detailed in this redesignation request.

1. Attainment of the Pb NAAQS [CAA section 107(d)(3)(E)(i)]

The State must show that the area is attaining the NAAQS. There are two components involved in making this demonstration which should be considered interdependently: ambient air quality data and EPA-approved air quality modeling.

1.1. Ambient Air Quality Data

The Department (through the Hillsborough County Environmental Protection Commission) currently operates three ambient Pb monitors in the NAA around Envirofocus (**Figure 1**). The Gulf Coast Lead monitor (12-057-1066) is located just 150 m due south of Envirofocus in an adjacent railyard. The original nonattainment designation was based on monitored violations at this monitor which has historically recorded the highest ambient Pb concentrations. The Patent Scaffolding monitor (12-057-1073) is located 300 m to the northeast and the Kenly monitor (12-057-0100) 880 m to the north. The Patent and Gulf Coast monitors have been operating continuously since the 1990s while the Kenly monitor was installed in 2010. The Kenly monitor has never recorded a violation of the 2008 Pb NAAQS, indicating a rapid decrease in concentrations with increasing distance from the facility.

A summary of the most recent monitoring data from each of these monitors along with the date when each attained the 2008 Pb NAAQS is presented in **Table 1**. As can be seen, there has been a dramatic improvement in air quality with respect to Pb throughout the NAA since construction was completed on the modernized Envirofocus facility. The 3-month rolling average Pb concentrations recorded at the three monitors since 2009 are shown below in **Figure 2**. The graph shows that concentrations were exceeding the NAAQS in 2009 (though far below the previous NAAQS), and then increased

[3] Procedures for Processing Requests to Redesignate Areas to Attainment. John Calcagni Memorandum dated September 4, 1992, Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711, available at: www.epa.gov/ozone-pollution/procedures-processing-requests-redesignate-areas-attainment.

significantly at both the Gulf Coast Lead and Patent Scaffolding monitors during the period from 2010-2013 when the Envirofocus facility was being reconstructed. The construction period is followed by a rapid decrease in concentrations with the final violation occurring during the 3-month period October to December 2013. While there have been occasional 3-month averages approaching the standard since 2014, the concentrations have for the most part remained less than 50% of the NAAQS. The monitoring data presented here indicate that as of January 2017, the 2008 Pb NAAQS has been attained at these monitoring sites.

Figure 1: Ambient Pb monitors in the Hillsborough County Pb nonattainment area.

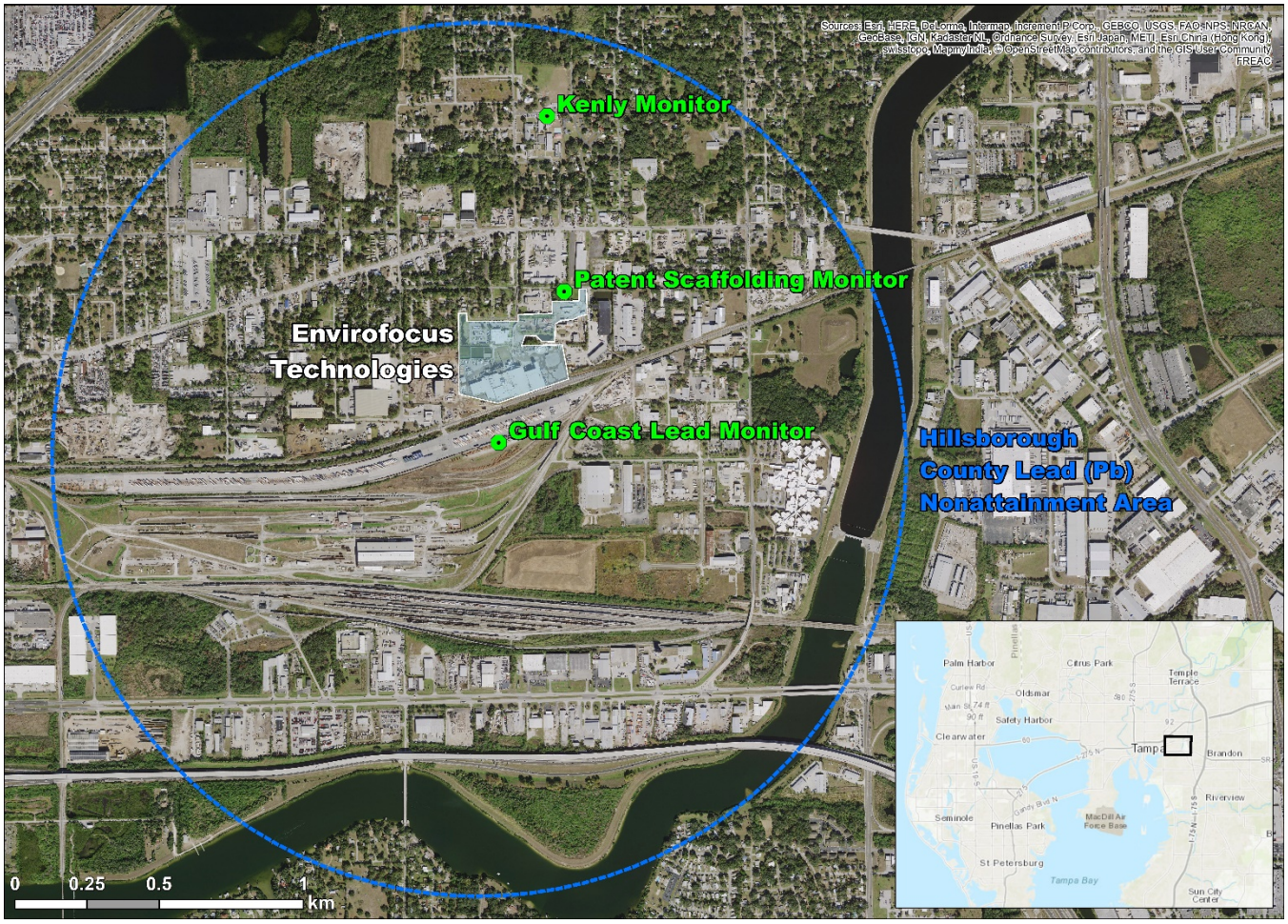
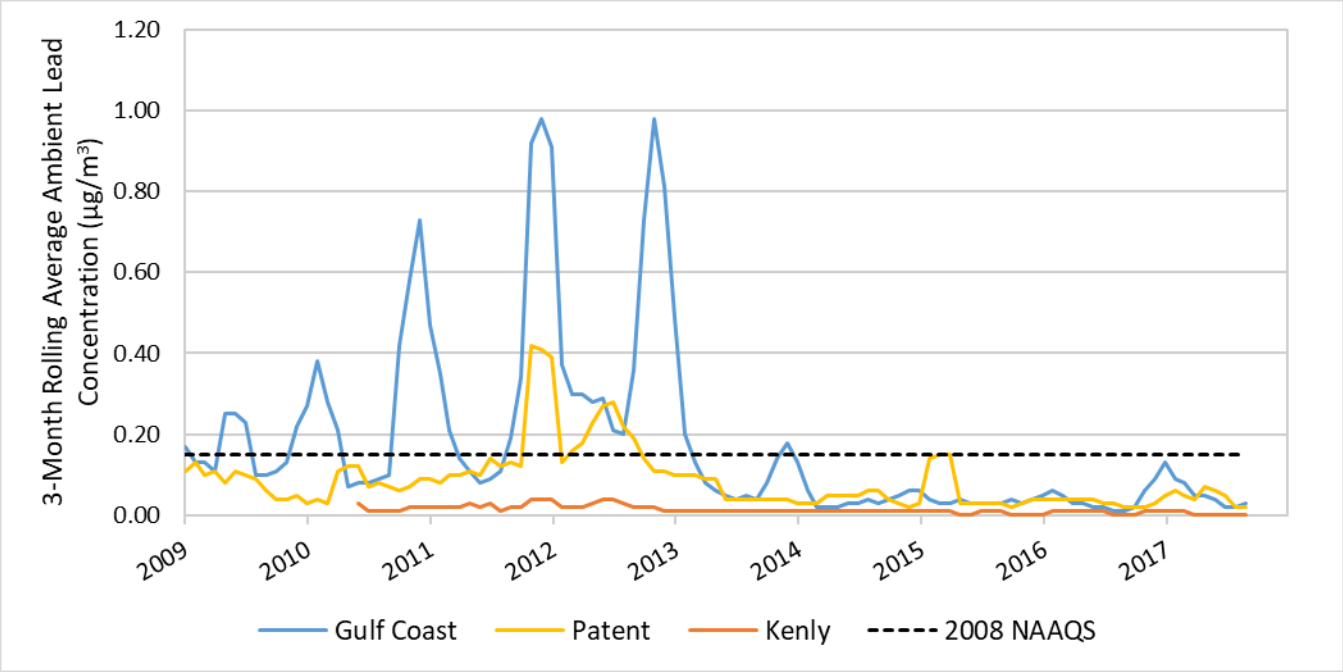


Table 1: Monitored Pb design values and reductions in the Hillsborough County Pb nonattainment area.

Monitor	Attainment Date	Highest Design Value 2009-2016	2014-2016 Design Value	Percent Reduction in Design Value
Gulf Coast Lead	January 2017	0.98 µg/m^3	0.13 µg/m^3	87%
Patent Scaffolding	January 2016	0.42 µg/m^3	0.15 µg/m^3	64%
Kenly	NA	0.04 µg/m^3	0.01 µg/m^3	75%

Figure 2: Monitored Pb concentrations in the Hillsborough County Pb nonattainment area 2009-2017.



All data from these monitors has been quality assured in accordance with 40 CFR Part 58, Subpart B and all other federal requirements. The data have been fully certified and uploaded to the EPA air quality system (AQS) for public access. In addition, these monitors meet all data completeness requirements in Appendix R to 40 CFR Part 50 and the most recent, attaining design values are therefore valid. A data completeness report is provided below in **Table 2**. Each monitor easily meets the required 75% data completeness by quarter requirement.

Once redesignated, the Department commits to continue operating an appropriate Pb monitoring network to verify the continued attainment of the 2008 Pb NAAQS in the area. Additionally, the Department will consult with EPA Region 4 prior to making changes to the existing monitoring network, continue to quality assure the monitoring data in accordance with 40 CFR Part 58, Subpart B and all other federal requirements, and enter all data into AQS in a timely manner.

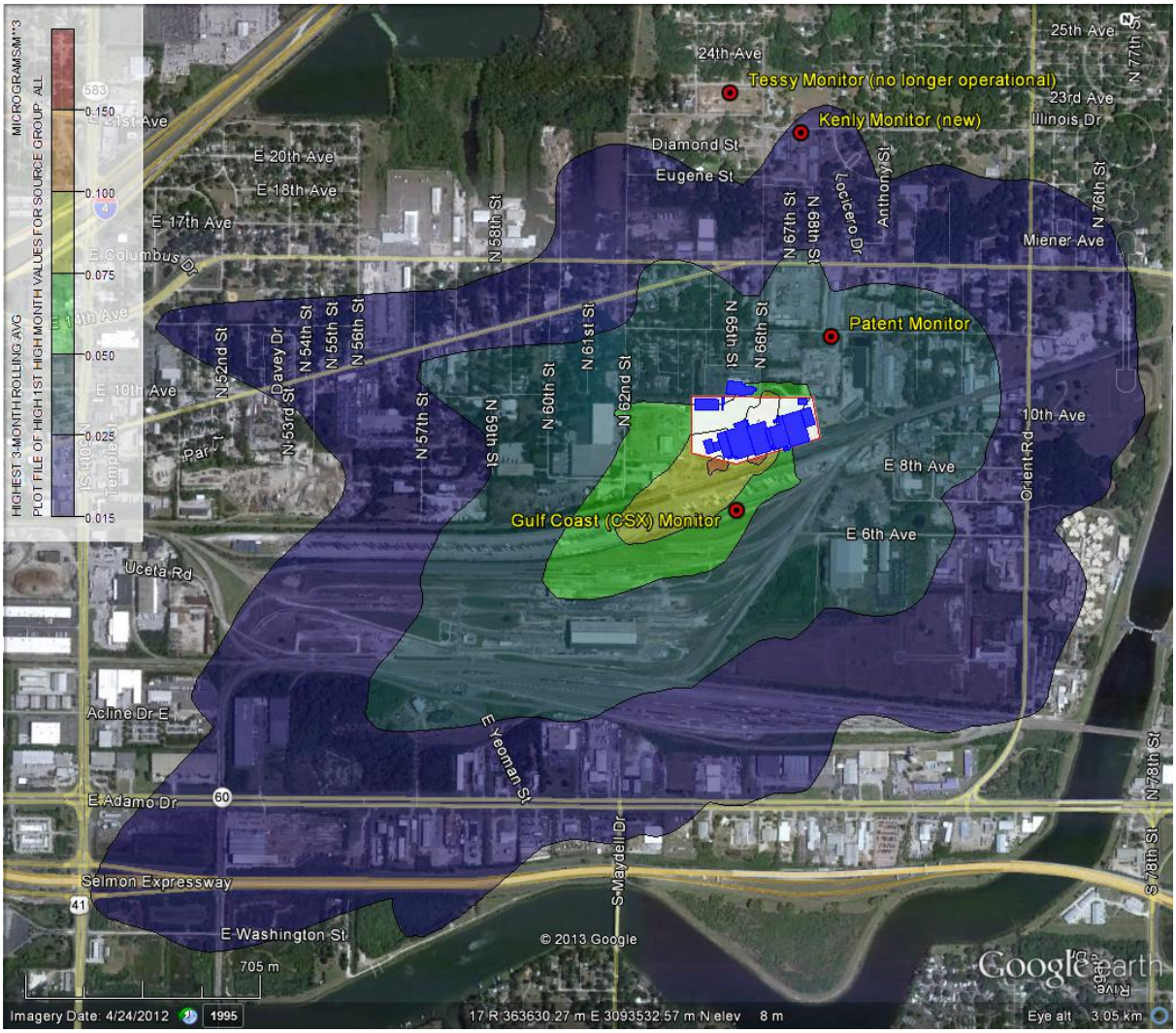
Table 2: Data completeness for Pb monitors in the Hillsborough County Pb nonattainment area.

Monitor	Year	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Annual
Gulf Coast Lead	2014	93	100	93	100	96.72
Gulf Coast Lead	2015	100	87	100	100	96.67
Gulf Coast Lead	2016	100	100	100	100	100.0
Patent Scaffolding	2014	93	100	100	100	98.36
Patent Scaffolding	2015	87	100	93	100	95.00
Patent Scaffolding	2016	100	100	93	100	98.36
Kenly	2014	100	100	100	94	98.36
Kenly	2015	93	80	93	80	86.67
Kenly	2016	100	100	100	100	100.0

1.2. Air Quality Modeling

The NAA plan for the area included air quality modeling to demonstrate that the implemented control measures would result in the area attaining and maintaining the NAAQS (**Appendix A**). This demonstration was performed in 2013 with meteorological data from 2006-2010 and using the recommended AMS/EPA Regulatory Modeling (AERMOD) system including the pre-processors AERMET and AERMAP and the post-processor LEADPOST.[4] The results of the modeling demonstration indicate that the ambient monitoring network is well-placed to sample the highest Pb concentrations (**Figure 3**). The Gulf Coast Lead monitor, specifically, is located in the area of highest modeled concentrations. The modeling results also show that concentrations decrease rapidly with increasing distance from the facility. Based on these results from this recent modeling demonstration, it can be reasonably extrapolated from the current monitoring network that the entire NAA is now attaining the NAAQS and additional modeling is not necessary.

Figure 3: Pb monitor locations and modeled design values from the Hillsborough County Pb NAA plan.



[4] *Guideline on Air Quality Models.* 40 CFR Part 51 Appendix W.

2. Fully Approved Implementation Plan for the Area [CAA section 107(d)(3)(E)(ii)]

The SIP for the area must be fully approved under CAA section 110(k), and must satisfy all requirements that apply to the area.

Florida's SIP for the Hillsborough County Pb NAA is fully approved by EPA. The SIP has no parts that are the subject of a disapproval; a finding of failure to submit or to implement the SIP; or partial, conditional, or limited approval.[5]

The Department submitted a complete NAA plan to EPA on June 29, 2012 (amended June 27, 2013). This SIP revision included a base year emissions inventory, enforceable conditions from an air construction permit issued to Envirofocus, a dispersion modeling demonstration indicating attainment of the NAAQS, and contingency measures. On April 16, 2015, EPA fully approved the Department's NAA plan for the Hillsborough County Pb NAA. As of January 2016, all control measures are in place and the NAA plan is fully implemented.

3. Permanent and Enforceable Air Quality Improvement [CAA section 107(d)(3)(E)(iii)]

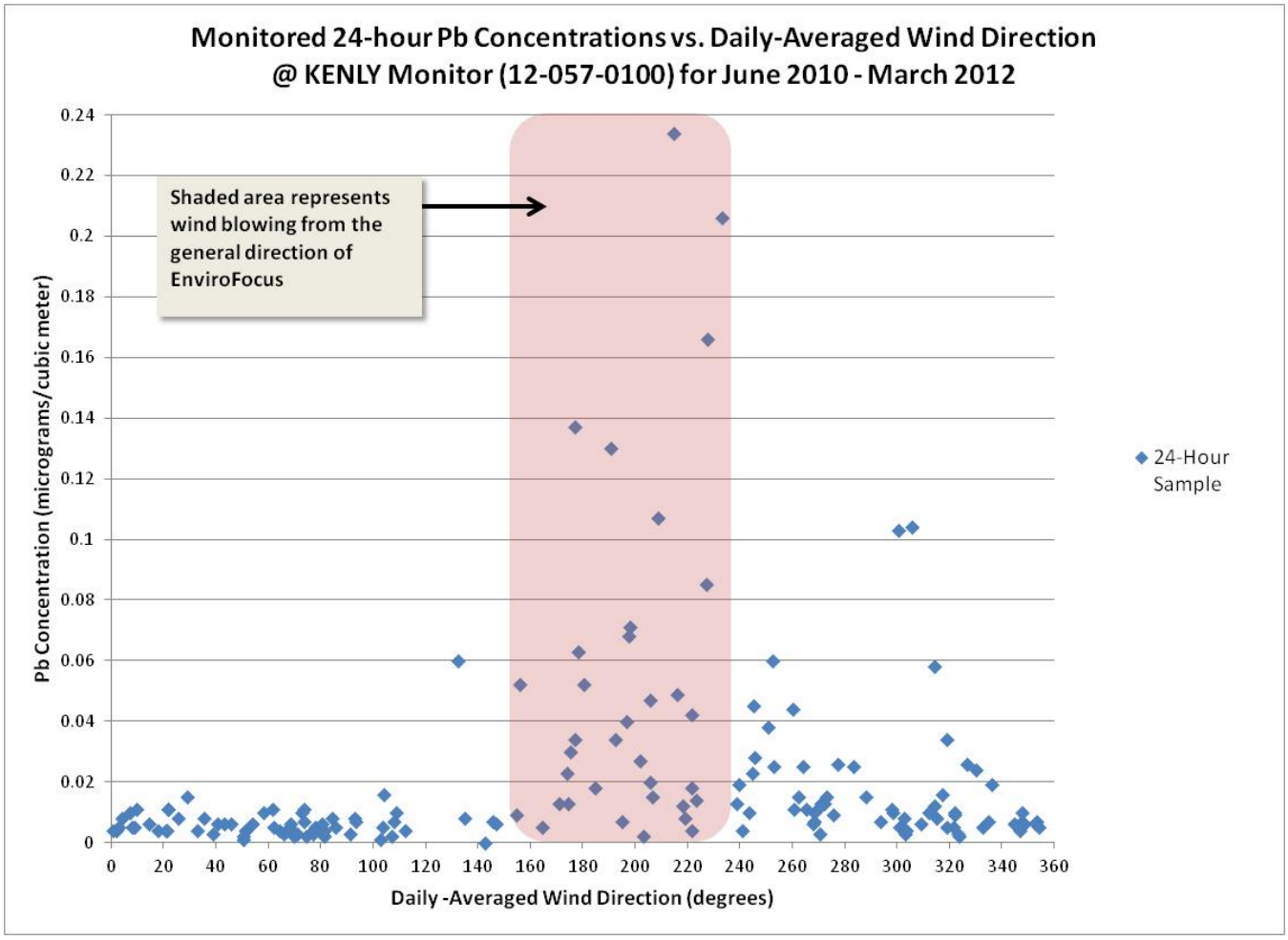
The State must be able to reasonably attribute the improvement in air quality to emission reductions which are permanent and enforceable.

Pb is a source-oriented pollutant that is not naturally present in the air and is not formed by any process in the atmosphere. Since the removal of Pb from gasoline over 20 years ago, the amount of Pb in the ambient air has plummeted to near zero in most areas. Pb is only found in significant concentrations around large industrial sources and it quickly settles to the ground due to its size (a single Pb atom weighs nearly 6.5 times more than an oxygen molecule). This localized nature of Pb concentrations is supported by the ambient monitoring data (**Table 1**) and modeling results (**Figure 3**) presented above showing concentrations falling over 90% to near zero just 880 m from Envirofocus. Further analysis of the ambient monitoring data shows that elevated Pb concentrations are associated exclusively with wind directions from Envirofocus (**Figure 4**). It follows then that the elevated ambient Pb concentrations in the NAA are due to emissions from Envirofocus alone.

The NAA plan for the area was based on this determination and successfully reduced ambient concentrations below the NAAQS by only requiring emissions reductions at Envirofocus. These emissions reductions are permanent and enforceable through the facility's Title V operating permit and the approved NAA plan. The construction work at the facility was substantially completed in 2012. This corresponds to the dramatic decrease in monitored ambient Pb concentrations seen in **Figure 2** in the first half of 2013. Since the completion of construction and the full implementation of the NAA plan, there have been no monitored violations of the 2008 Pb NAAQS. The low monitored levels of Pb and the new configuration of the facility provide high confidence that the permanent and enforceable permit conditions in place at Envirofocus will provide for the continued maintenance of the 2008 Pb NAAQS.

[5] 40 CFR 52.522

Figure 4: Ambient Pb concentrations by wind direction near Envirofocus.



3.1. Permanent and Enforceable Emissions Reductions at Envirofocus

The Envirofocus facility has undergone a complete reconstruction/modernization since the nonattainment designation (**Figure 5** and **Figure 6**). Whereas much of the process area was previously vented to the open air resulting in significant, un-quantifiable fugitive emissions of Pb, the entire facility is now contained within a negative-pressure enclosure. Much of the property was also cleaned to remove historical Pb deposits in the soil that could become airborne and paved to control fugitive emissions from vehicle traffic. The new, modern facility surrounded by wetted paved areas can be seen in **Figure 6**.

Figure 5: Satellite image of the Envirofocus facility before the reconstruction/modernization in 2007.

Figure 6: Satellite image of the Envirofocus facility after the reconstruction/modernization in 2017.

The modernization of the facility included the following pollution control measures:

- Baghouses (capable of achieving over 99% control efficiency) for exhaust of all smelting and refining operations;
- Local Exhaust Vents (LEVs) (i.e., enclosure hoods) for capturing process fugitive emissions;
- Negative-pressure total enclosure of all process areas, vented from the facility through Torit cartridge collector filters (capable of achieving over 99% control efficiency) to prevent fugitive emissions from escaping through building openings uncontrolled;
- Wet suppression (via sprinkler system), vacuum sweeping, and wheel washing of vehicles prior to exiting the building to control fugitive emissions on facility grounds and roadways.

These control measures are required by Envirofocus' 2012 air construction permit[6] that was incorporated into both Florida's SIP via the NAA plan and the facility's Title V operating permit making these controls permanent and enforceable.[7] The controls and emission limits included in the permit are at least as stringent, and in some cases more stringent, than the controls and limits set forth in EPA's *Implementation of the 2008 Lead National Ambient Air Quality Standards – Guide to Developing Reasonably Available Control Measures (RACM) for Controlling Lead Emissions*[8] and the 2014 revised National Emissions Standards for Hazardous Air Pollutants (NESHAP) for Secondary Lead Smelting.[9] **Table 3** compares the Pb and total hydrocarbon (THC) emission limits as well as total enclosure negative pressure values outlined in the NESHAP to those in the Envirofocus permit:

Table 3: Comparison of emission limits in the Envirofocus permit to those in the NESHAP for Secondary Lead Smelters codified at 40 CFR Part 63, Subpart X.

Parameter	**0570057-027-AC**	**40 CFR Part 63 Subpart X**
Battery Breaking Area Stack (mg/dscm)	0.8	1.0
Smelting Process Stack (mg/dscm)	0.3	1.0
Lead Refining Stack (mg/dscm)	0.2	1.0
Building Ventilation Stacks (mg/dscm)	0.05	1.0
THC (Blast Furnace Only) (ppmvd)	360	360
THC (Blast and Reverb Furnaces) (ppmvd)	20	20
Total Enclosure Negative Pressure (mmHG)	0.013	0.013
mg/dscm = milligrams per dry standard cubic meter ppmvd = parts per million by volume, dry mmHG = millimeters of Mercury		

EPA guidance[10] states that total building enclosures that are imposed in a manner consistent with the NESHAP from Secondary Lead Smelting can assume capture efficiency of no greater than 95%. However, a greater level of capture efficiency (up to 99%) may be demonstrated on a case-by-case basis

[6] *See* air construction permit 0570057-027-AC issued by the Florida Department of Environmental Protection on December 14, 2012.
[7] *See* Title V operating permit 0570057-033-AV issued by the Florida Department of Environmental Protection on March 6, 2017.
[8] Implementation of the 2008 Lead National Ambient Air Quality Standards: Guide to Developing Reasonably Available Control Measures (RACM) for Controlling Lead Emissions, Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711, available at: www.epa.gov/lead-air-pollution/lead-pb-national-ambient-air-quality-standards-naaqs-implementation-guidance
[9] 40 CFR Part 63, Subpart X.
[10] 2008 Lead (Pb) National Ambient Air Quality Standards (NAAQS) Implementation Questions and Answers. Scott Mathias Memorandum dated July 8, 2011, Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711, available at: www.epa.gov/lead-air-pollution/lead-pb-national-ambient-air-quality-standards-naaqs-implementation-guidance.

considering site-specific factors and additional design or housekeeping provisions that go beyond what is assumed in the NESHAP.

The total enclosure is the linchpin in the strategy to control Pb emissions and ambient concentrations. Envirofocus has enclosed all process areas of the facility and ventilates the air exhausted from the facility through two large 195,000 and 160,000 actual cubic feet per minute (acfm) Torit cartridge collector filters. The 160,000 acfm Torit filter also has a high efficiency particulate air (HEPA) filter downstream of the Torit filter. This combination is considered the top-level control technology for this type of process. The filtered gases are emitted from two separate stacks with heights of 130 and 90 feet, respectively. The air flow through these two stacks produces a continuous inward draft velocity (i.e., negative pressure) at all openings in the building preventing Pb emissions from escaping uncontrolled. To ensure compliance, negative pressure of the total building enclosure is continuously monitored. If a loss of negative pressure occurs, lead production must stop until the malfunction can be corrected.

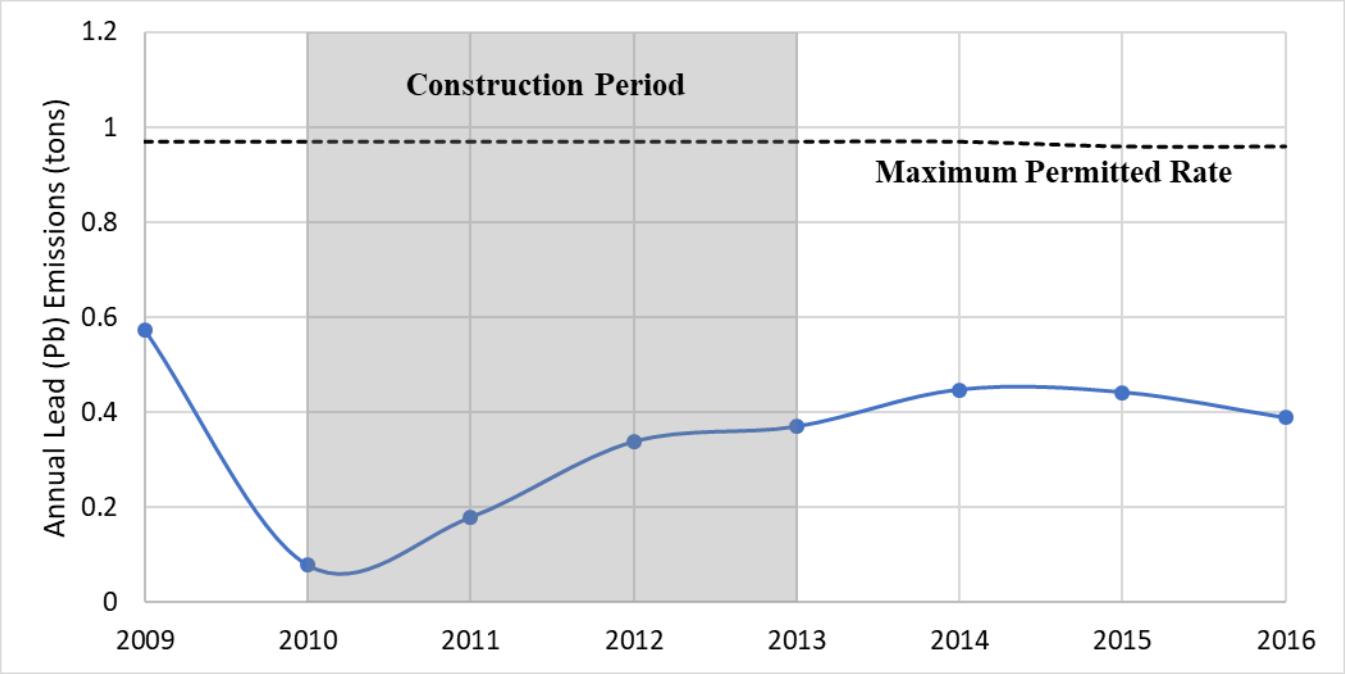
Within the total enclosure, process fugitive emissions (i.e., emissions generated by furnace tapping, charging, and lead refining) from furnaces and kettles are captured by LEVs, filtered, and vented through a separate 130-foot "hygiene stack." Also, all service vehicle or overhead door openings are equipped with either quick-opening/closing automatic doors or metal roll up doors to minimize changes in differential pressure or building inflow during occasional but necessary traffic. These measures are identified as additional design and housekeeping provisions that go beyond those assumed in the NESHAP for Secondary Lead Smelting and ensure that, unlike the historical operation, fugitive Pb emissions are kept to an absolute minimum. For these reasons, it is reasonable and appropriate to assume a 99% capture efficiency of Pb fugitive emissions from the total enclosure building.

3.2. Estimated Emission Reductions

It is difficult to estimate the emission reductions attributable to this work. As mentioned, the previous configuration of the facility allowed uncontrolled, unquantifiable fugitive emissions of Pb directly to the ambient air. This has been considered the primary contributor to the elevated Pb concentrations. The new negative-pressure enclosure with 99% capture efficiency filters has significantly reduced the possibility of fugitive emissions of Pb. While the reduction in process fugitive emissions is not quantifiable on an absolute scale, it is expected to be near 100%.

The NAA plan estimated base year emissions of Pb from the facility's stacks in 2009 of 0.5875 tons with an allowable limit of 0.97 tons per year (tpy). The attainment year maximum allowable emissions are 0.96 tpy based on the enforceable permitted limits for Envirofocus. **Figure 7** shows that quantifiable Pb emissions from Envirofocus' stacks have decreased approximately 34% since 2009 and have remained about half the new total annual maximum allowable emissions rate since the completion of construction.

Figure 7: Annual Pb emissions from the Envirofocus facility 2009-2016.



4. Fully Approved Maintenance Plan for the Area [CAA section 107(d)(3)(E)(iv)]

EPA must fully approve a maintenance plan which meets the requirements of CAA section 175A.

The maintenance plan for this area is contained in the "Area Maintenance Plan" section of this document and is subject to parallel processing with this redesignation request.

5. Section 110 and Part D Requirements [CAA section 107(d)(3)(E)(v)]

For the purposes of redesignation, a State must meet all requirements of CAA section 110 and Part D that were applicable prior to submittal of the complete redesignation request.

Section 110(a) of the CAA contains the general requirements for a SIP for national primary and secondary ambient air quality standards. Within three years of the promulgation of a new NAAQS, the State is required to submit an "infrastructure SIP" (ISIP) providing a plan for the implementation, maintenance, and enforcement of the new NAAQS. Florida's ISIP for the 2008 Pb NAAQS was submitted to EPA on October 14, 2011. This submittal certified that the Florida SIP contains provisions that ensure the 2008 Pb NAAQS is implemented, enforced, and maintained in Florida. EPA fully approved Florida's ISIP for the 2008 Pb NAAQS on September 24, 2015 (effective October 26, 2015). 80 Fed. Reg. 57,538.

Subpart 1 of Part D of the CAA contains the general requirements applicable to all areas designated as nonattainment for any NAAQS. Subpart 5 contains requirements specific to areas designated nonattainment for a Pb NAAQS. Florida has satisfied these requirements through EPA's approval of the NAA plan and the subsequent full implementation of that plan. Section 176(c)(4) conformity requirements do not apply to the Pb NAAQS. In EPA's final rule revising the NAAQS, it stated that in light of the elimination of lead additives from gasoline, transportation conformity does not apply. 73 Fed. Reg. 67,043.

Area Maintenance Plan

Section 107(d)(3)(E) of the Clean Air Act (CAA) stipulates that for an area to be redesignated to "attainment" from "nonattainment," the U.S. Environmental Protection Agency (EPA) must fully approve a maintenance plan which meets the requirements of section 175A. Section 175A outlines the framework of a maintenance plan that must provide for maintenance of the relevant National Ambient Air Quality Standard (NAAQS) in the area for at least 10 years after redesignation. The Florida Department of Environmental Protection (Department) is submitting this maintenance plan for the Hillsborough County Lead (Pb) nonattainment area (NAA) concurrently with the redesignation request also contained within this state implementation plan (SIP) revision. This plan provides for maintenance of the 2008 Pb NAAQS through the year 2029.

EPA's memo *Procedures for Processing Requests to Redesignate Areas to Attainment* recommends considering the following five provisions in the maintenance plan when seeking redesignation:[11]

1. Attainment Emissions Inventory,
2. Maintenance Demonstration,
3. Monitoring Network,
4. Verification of Continued Attainment,
5. Contingency Plan.

Each of these provisions are addressed here in accordance with the same EPA memo and the CAA.

1. Attainment Emissions Inventory

The State should develop an attainment emissions inventory to identify the level of emissions in the area which is sufficient to attain the NAAQS. Where the State has made an adequate demonstration that air quality has improved as a result of the SIP, the attainment inventory will generally be the actual inventory at the time the area attained the standard.

As explained in the **section 3** of the **Redesignation Request** above, the improvement in air quality in the NAA is due directly to the modernization/reconstruction of the Envirofocus facility. It was determined that the significant unquantifiable fugitive emissions from the old facility were likely the largest contributor to the elevated ambient Pb concentrations. The control measures implemented at the facility through the SIP, including, among other things, the negative-pressure total enclosure and the wet suppression system, have dramatically reduced fugitive emissions and quantifiable stack emissions have declined as well. The attainment emissions inventory is therefore the emissions inventory from the year after monitored ambient Pb concentrations fell below the NAAQS.

There has not been a monitored violation of the Pb NAAQS since December 2013 in Hillsborough County. The Department has therefore chosen to use 2014 actual emissions data to represent the attainment emissions inventory. Pb emissions data from the facility's 2014 annual operating report (AOR) for all sources are presented below in **Table 4**. The complete attainment emissions inventory for the entire NAA is presented in **Table 5**. Envirofocus is the only source of Pb emissions in the NAA and mobile sources are no longer a source of Pb emissions since Pb was removed from gasoline in the 1990s, so all other categories are zero.

[11] Procedures for Processing Requests to Redesignate Areas to Attainment. John Calcagni Memorandum dated September 4, 1992, Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711, available at: www.epa.gov/ozone-pollution/procedures-processing-requests-redesignate-areas-attainment

Table 4: 2014 Pb emissions inventory for the Envirofocus facility (057-0057) in Hillsborough County.

EU ID	Unit Description	2014 Pb Emissions (tons)
26	Battery Breaking Area	0.016381
30	Feed Dryer	0.00
31	Collocated Reverberatory Furnace	0.128958
32	Collocated Blast Furnace	0.02
33	Furnace Tapping, Charging, and Refining	0.065407
35	Building Ventilation	0.025727
36	Facility Grounds and Roadways	0.178
38	Additional Building Ventilation	0.012863
Total 2014 Envirofocus Facility Pb Emissions		**0.447 tons**

Table 5: 2014 attainment emissions inventory for the Hillsborough County Pb nonattainment area.

Source Type	2014 Pb Emissions (tons)
Point	0.447
Area	0.00
Non-Road	0.00
On-Road	0.00
Total	0.447

2. Maintenance Demonstration

A State may generally demonstrate maintenance of the NAAQS by either showing that future emissions of a pollutant or its precursors will not exceed the level of the attainment inventory, or by modeling to show that the future mix of sources and emission rates will not cause a violation of the NAAQS.

Envirofocus is the only source of Pb emissions in the Hillsborough County Pb NAA. The EPA approved NAA plan for this area included an attainment modeling demonstration that showed compliance with the 2008 Pb NAAQS based on the facility's current permitted emission rates. These permitted rates are based on a variety of control measures implemented at Envirofocus as a part of the NAA plan including the complete modernization/reconstruction of the facility. These control measures are permanent and enforceable through the facility's Title V operating permit and Florida's SIP. No major design or production changes that affect Pb emissions have occurred at the facility since the submittal of the NAA plan in 2013. All existing control measures will remain in effect after redesignation and any future sources in the area will require similar measures unless the Department demonstrates through appropriate dispersion modeling that the NAAQS can be maintained. As such, the attainment modeling demonstration within the NAA plan for the area (**Appendix A**) is still applicable and is sufficient evidence of continued maintenance of the Pb NAAQS into the foreseeable future.

Table 6 below presents projected emissions inventories for the area every 3 years for the next 12 years. The Department is not aware of and does not anticipate any future development within the very small NAA that would increase Pb emissions. Therefore, the 2029 inventory and each of the interim year inventories is identical to the 2014 inventory which represented the highest level of Pb emissions in the NAA since 2009 (**Figure 7**). Any increases in actual emissions from Envirofocus are required by permit to remain below the modeled emissions in **Appendix A** that demonstrate attainment of the NAAQS.

Table 6: Projected future emissions inventories for the Hillsborough County Pb nonattainment area.

Source Type	Projected 2020 Pb Emissions (tons)	Projected 2023 Pb Emissions (tons)	Projected 2026 Pb Emissions (tons)	Projected 2029 Pb Emissions (tons)
Point	0.447	0.447	0.447	0.447
Area	0.00	0.00	0.00	0.00
Non-Road	0.00	0.00	0.00	0.00
On-Road	0.00	0.00	0.00	0.00
Total	0.447	0.447	0.447	0.447

3. Monitoring Network

Once an area has been redesignated, the State should continue to operate an appropriate air quality monitoring network, in accordance with 40 CFR Part 58 to verify the attainment status of the area.

The Department (through the Hillsborough County Environmental Protection Commission) currently operates three ambient Pb monitors in the NAA that meet all federal rules and regulations as described in **section 1** of the **Redesignation Request** above. These monitors are well placed to monitor the highest Pb concentrations, with two of the monitors less than 300 m from Envirofocus. The Department commits to maintaining an appropriate, well-sited monitoring network in the NAA through the maintenance plan period in order to verify the continued maintenance of the 2008 Pb NAAQS.

4. Verification of Continued Attainment

Each State should ensure that it has the legal authority to implement and enforce all measures necessary to attain and maintain the NAAQS.

All measures necessary to attain and maintain the NAAQS have been implemented through the NAA plan. The Department will verify the continued attainment through the well-placed monitoring network. Additionally, Envirofocus is required to submit emissions data to the Department through its annual operating report which will be used to verify continued compliance with the permitted emissions rates that were shown through the modeling demonstration in the NAA plan to be sufficient to provide for maintenance of the NAAQS throughout the NAA. Any increases in actual emissions from Envirofocus, the only source of Pb emissions in the NAA, must remain below their permitted levels, which were made federally enforceable through NAA Plan, and which will continue to be federally enforceable throughout the duration of this Maintenance Area SIP.

The Department does not anticipate any growth or development through 2029 within the small, 1.5 km radius NAA. Any potential future Pb emissions sources that may locate in or near the NAA would be required to comply with the Department's approved new source review (NSR) permitting program, either nonattainment new source review or prevention of significant deterioration review, to ensure that the area will continue to meet the NAAQS.

Envirofocus continues to make investments beyond what has been required by the NAA plan to further reduce potential fugitive emissions of Pb. The facility completed paving the entire eastern portion of the site in 2016, upgraded the spray wash systems for shipping trucks and added interlocking wash bay doors in 2017, and is designing an upgraded sprinkler system to be installed by October 2018. Two adjacent properties have been purchased by Envirofocus in an effort to control fugitive dust emissions that may contain residual Pb deposits: a 14-acre tract of land purchased in 2016 was cleared of structures and a 12-acre scrap recycling facility purchased in 2017 is being shut down. In addition to shutting down the scrap yard, a second water truck has been added during the dry season (November-April) and a sprinkler system is currently being installed to wet this property.

5. Contingency Plan

CAA section 175A requires that a maintenance plan include contingency provisions, as necessary, to promptly correct any violation of the NAAQS that occurs after redesignation of the area.

In the event that a monitored Pb violation occurs after the attainment date, the Department would rely on its authority outlined in Rule 62-4.080, F.A.C., which expressly authorizes the Department to require the permittee to conform to new or additional conditions if there is a showing of any change in the environment or surrounding conditions that requires a modification to conform to applicable air quality standards. Depending on the present circumstances, the Department would exercise this authority to work with Envirofocus to make necessary permit modifications.

In the event that a monitored Pb violation occurs after the attainment date, the Department would immediately begin a 30-day evaluation period to diagnose the cause of the violation. This would be followed by a 90-day consultation period with the facility to determine the best course of action. If a permit modification is deemed necessary, the Department would issue a final permit within the statutory timeframes required in Sections 120 and 403, Florida Statues (F.S.).

Additionally, the following specific contingency measures, which were part of the NAA SIP, shall continue to apply as part of the Maintenance Area SIP:

1. If any one-month period averages greater than 0.15 $\mu g/m^3$ at any one of the Pb monitors in the maintenance area, once notified by the Department or the Environmental Protection Commission of Hillsborough County (EPC), Envirofocus will immediately initiate an enhanced Operation & Maintenance (O&M) Plan for Pb control. This enhanced O&M Plan shall include the following:
    - Envirofocus shall conduct a twelve-minute EPA Method #9 visible emission reading on each Pb source outlet by a certified reader every day effective immediately;
    - Envirofocus shall complete a dye leak check on every filtration device which controls a Pb source within 14 days and cease operation of any emission unit connected to a filtration device that fails the dye leak check until such time as repairs are made and the unit passes a second leak check.
    - Envirofocus shall increase the sprinkler frequency to 5 minutes every 30 minutes during daylight hours and 5 minutes every 60 minutes during nighttime hours twenty-four hours a day every day, effective immediately;
    - Envirofocus shall vacuum the entire paved yard three times a day, except during rain events or within two hours of a rain event, effective immediately;
    - Envirofocus shall keep daily records for each of these measures and submit these records monthly by the third business day of the following month to EPC and the Department, and upon request.

    Each of these contingencies shall continue for a minimum of 90 days or until such time as the Department has determined that they are no longer needed.
2. If any three consecutive month period averages greater than 0.15 $\mu g/m^3$ at any one of the Pb monitors in the maintenance area, once notified by the Department or EPC, Envirofocus will continue with the measures detailed in the enhanced O&M Plan for Pb control listed above and, in addition, conform to the following:
    - Envirofocus shall immediately cease any construction activities on site that disturb soils;
    - Envirofocus shall immediately restrict yard traffic only to essential vehicles;

- The Department may require immediate restriction of the daily production of lead from the blast and reverb furnaces. Any production restriction shall be a percent reduction from the facility's average production from the three-month period during which the monitor exceeded the 0.15 $\mu g/m^3$ standard, and shall be set by the Department based upon the facility's anticipated stack emissions impact on the highest reading ambient lead monitor in the immediate area.
- Envirofocus shall keep daily records for each of these measures and submit these records monthly by the third business day of the following month to EPC and the Department, and upon request.

Each of these contingencies shall continue for a minimum of 90 days, or until such time as the Department has determined that they are no longer needed.

3. If a fourth consecutive month is greater than 0.15 $\mu g/m^3$ at any one of the Pb monitors in the maintenance area, the Department may require further production restrictions and/or other contingencies as the Department deems necessary to reduce ambient lead concentrations in the area. The Department shall transmit written descriptions of any such contingency measures by certified letter, and such measures will be effective immediately upon receipt by Envirofocus, and remain in effect until such time as the Department has determined that they are no longer needed. All of the contingency measures detailed above shall continue to apply. Applicable Pb emissions abatement measures may be revisited each and every consecutive month during which a Pb monitor within the maintenance area averages above the standard.

Response to 40 CFR Part 51, Appendix V, Criteria

Pursuant to 40 CFR Part 51, Appendix V, the following materials shall be included in State Implementation Plan (SIP) submissions for review and approval by the U.S. Environmental Protection Agency (EPA).

1. Administrative Materials

a. A formal letter of submittal from the Governor or his designee, requesting EPA approval of the plan or revision thereof (hereafter "the plan").

A Pre-Hearing Submittal Letter signed by the Director of the Division of Air Resource Management, Florida Department of Environmental Protection (Department), on behalf of the Governor of the State of Florida, is attached to this Pre-Hearing SIP Submittal.

b. Evidence that the State has adopted the plan in the State code or body of regulations; or issued the permit, order, consent agreement (hereafter "document") in final form. That evidence shall include the date of adoption or final issuance as well as the effective date of the plan, if different from the adoption/issuance date.

This Maintenance SIP relies on a construction permit, which was issued in its final form in 2012 (057-0057-027-AC, issued on December 17, 2012), and was made federally enforceable as part of Florida's approved NAA Plan.

c. Evidence that the State has the necessary legal authority under State law to adopt and implement the plan.

The Department has the necessary legal authority to adopt and implement this proposed revision to Florida's SIP. References to the pertinent Florida Statutes and Florida Administrative Code (F.A.C.) rules may be found in the "Legal Authority" section of this submittal.

d. A copy of the actual regulation, or document submitted for approval and incorporation by reference into the plan, including indication of the changes made (*such as, redline/strikethrough*) to the existing approved plan, where applicable. The submittal shall include a copy of the official State regulation/document signed, stamped and dated by the appropriate State official indicating that it is fully enforceable by the State. The effective date of any regulation/document contained in the submission shall, whenever possible, be indicated in the regulation/document itself. *If the State submits an electronic copy, it must be an exact duplicate of the hard copy with changes indicated, signed documents need to be in portable document format, rules need to be in text format and files need to be submitted in manageable amounts (e.g., a file for each section or chapter, depending on size, and separate files for each distinct document) unless otherwise agreed to by the State and Regional Office.*

See air construction permit 0570057-027-AC issued by the Florida Department of Environmental Protection on December 14, 2012, incorporated into Florida's SIP through the Hillsborough County Pb NAA plan.

e. Evidence that the State followed all of the procedural requirements of the State's laws and constitution in conducting and completing the adoption/issuance of the plan.

State law (Section 120.525, F.S.) requires the Department to give notice of public meetings, hearings, and workshops by publication in the Florida Administrative Register (FAR) not less than seven days before the event. Through publication in the FAR of the notice of opportunity to participate in a public hearing, if requested, at least 30 days before the event, the Department has

complied with all state procedural requirements relevant to the development of this proposed SIP revision. A copy of the notice of proposed SIP revision may be found in the "Public Participation" section of this submittal.

f. Evidence that public notice was given of the proposed change consistent with procedures approved by EPA, including the date of publication of such notice.

The Department has complied with all public hearing requirements of 40 CFR 51.102. Copies of all relevant notices and notification emails may be found in the "Public Participation" section of this submittal.

g. Certification that public hearing(s) were held in accordance with the information provided in the public notice and the State's laws and constitution, if applicable and consistent with the public hearing requirements in 40 CFR 51.102.

Certification of compliance with all state and federal public notice and hearing requirements will be provided in the "Letter of Submittal" for the final SIP revision.

h. Compilation of public comments and the State' response thereto.

Written comments received during the public notice period on this proposed SIP revision, and the Department's response thereto, will be included in the "Public Participation" section of this submittal.

2. Technical Support

a. Identification of all regulated pollutants affected by the plan.

This SIP revision addresses only the air pollutant lead (Pb).

b. Identification of the locations of affected sources including the EPA attainment/nonattainment designation of the locations and the status of the attainment plan for the affected areas(s).

This SIP revision applies to the Pb nonattainment area in Hillsborough County defined as follows:

Tampa, FL: Hillsborough County (part) Area is located within a 1.5 km radius centered at UTM coordinates 364104 meters E, 3093830 meters N, Zone 17, which surrounds the Envirofocus Technologies facility.

c. Quantification of the changes in plan allowable emissions from the affected sources; estimates of changes in current actual emissions from affected sources or, where appropriate, quantification of changes in actual emissions from affected sources through calculations of the differences between certain baseline levels and allowable emissions anticipated as a result of the revision.

See the Redesignation Request section of this submittal.

d. The State's demonstration that the national ambient air quality standards, prevention of significant deterioration increments, reasonable further progress demonstration, and visibility, as applicable, are protected if the plan is approved and implemented. For all requests to redesignate an area to attainment for a national primary ambient air quality standard, under section 107 of the Act, a revision must be submitted to provide for the maintenance of the national primary ambient air quality standards for at least 10 years as required by section 175A of the Act.

See the Redesignation Request section of this submittal.

e. Modeling information required to support the proposed revision, including input data, output data, models used, justification of model selections, ambient monitoring data used, meteorological data

used, justification for use of offsite data (where used), modes of models used, assumptions, and other information relevant to the determination of adequacy of the modeling analysis.

See Appendix A of this submittal.

f. Evidence, where necessary, that emission limitations are based on continuous emission reduction technology.

See air construction permit 0570057-027-AC issued by the Florida Department of Environmental Protection on December 14, 2012, incorporated into Florida's SIP through the Hillsborough County Pb NAA plan.

g. Evidence that the plan contains emission limitations, work practice standards and recordkeeping/reporting requirements, where necessary, to ensure emission levels.

See air construction permit 0570057-027-AC issued by the Florida Department of Environmental Protection on December 14, 2012, incorporated into Florida's SIP through the Hillsborough County Pb NAA plan.

h. Compliance/enforcement strategies, including how compliance will be determined in practice.

See air construction permit 0570057-027-AC issued by the Florida Department of Environmental Protection on December 14, 2012, incorporated into Florida's SIP through the Hillsborough County Pb NAA plan.

i. Special economic and technological justifications required by any applicable EPA policies, or an explanation of why such justifications are not necessary.

Not Applicable.

3. Exceptions

Not applicable.

Legal Authority

Chapter 403 of the Florida Statutes (F.S.), entitled "Environmental Control," provides the legal framework for most of the activities of the air resource management program within the Florida Department of Environmental Protection (Department). Except as provided at sections 403.8055 and 403.201, F.S., for fast-track rulemaking and the granting of variances under Chapter 403, F.S., respectively, Chapter 120, F.S., Florida's "Administrative Procedure Act," sets forth the procedures the Department must follow for rulemaking, variances, and public meetings. The most recent version of the Florida Statutes can be found online at http://www.leg.state.fl.us/Statutes.

The principal sections of Chapter 403, F.S., that grant the Department authority to operate its air program are listed below. Authority to develop and update Florida's State Implementation Plan (SIP) and 111(d) Designated Facilities Plan is expressly provided by subsection 403.061(35), F.S., which provides that the Department shall have the power and the duty to control and prohibit pollution of air and water in accordance with the law and rules adopted and promulgated by it and, for this purpose, to "exercise the duties, powers, and responsibilities required of the state under the federal Clean Air Act, 42 U.S.C. ss. 7401 et seq."

403.031	Definitions, including the definition of "regulated air pollutant" (403.031(19)).
403.061	Authority to: promulgate plans to provide for air quality control and pollution abatement (403.061(1)); adopt rules for the control of air pollution in the state (403.061(7)); take enforcement action against violators of air pollution laws, rules and permits (403.061(8)); establish and administer an air pollution control program (403.061(9)); set ambient air quality standards (403.061(11)); monitor air quality (403.061(12)); require reports from air pollutant emission sources (403.061(13)); require permits for construction, operation, and modification of air pollutant emission sources (403.061(14)); and exercise the duties, powers, and responsibilities required of the state under the federal Clean Air Act (403.061(35)).
403.087	Authority to issue, deny, modify, and revoke permits.
403.0872	Authority to establish an air operating permit program as required by Title V of the Clean Air Amendments of 1990.
403.0877	Authority to require engineering certification of permit applications.
403.121	Authority to seek judicial and administrative remedies for violations.
403.131	Authority to seek injunctive relief for violations.
403.141	Authority to find civil liability for violations.
403.161	Authority to assess civil and criminal penalties for violations.
403.182	Authority for local pollution control programs.
403.201	Authority to grant variances.
403.8052	Authority to establish a Small Business Assistance Program for small-business sources of air pollutant emissions.
403.8055	Authority to adopt U.S. Environmental Protection Agency (EPA) standards by reference through a fast-track process.
403.814	Authority to allow use of general permits (permits-by-rule) for minor sources.

Other statutory authorities, outside of Chapter 403, F.S., for Florida's air program are as follows:

112.3143	Requirement that public officials disclose potential conflicts of interest.
112.3144	Requirement for disclosure of financial interests by public officials.
120.569	Authority of agency head to issue an emergency order in response to an immediate threat to public health, safety, or welfare.
316.2935	Authority to prohibit the sale and operation of motor vehicles whose emission control systems have been tampered with, and to prohibit the operation of motor vehicles that emit excessive smoke.
320.03	Authority to establish Air Pollution Control Trust Fund and use $1 fee on every motor vehicle license registration sold in the state for air pollution control purposes, including support of approved local air pollution control programs.
376.60	Authority to establish a fee for asbestos removal projects.

Current and historical versions of Florida Administrative Code (F.A.C.) rule sections and chapters back to January 1, 2006, may be accessed from the Florida Department of State (DOS) website https://www.flrules.org. The DOS website also provides access to materials adopted by reference since January 1, 2011. Department rule chapters containing State Implementation Plan (SIP) or 111(d) State Plan provisions are as follows:

62-204	Air Pollution Control – General Provisions
62-210	Stationary Sources – General Requirements
62-212	Stationary Sources – Preconstruction Review
62-243	Tampering with Motor Vehicle Air Pollution Control Equipment
62-252	Gasoline Vapor Control
62-256	Open Burning
62-296	Stationary Sources – Emission Standards
62-297	Stationary Sources – Emissions Monitoring

Other air-related Department rule chapters—not part of the SIP or 111(d) State Plan—include:

62-213	Operation Permits for Major Sources of Air Pollution (Title V)
62-214	Requirements for Sources Subject to the Federal Acid Rain Program
62-257	Asbestos Program

Notice of Opportunity to Submit Comments and Participate in Public Hearing

contacting Ian Brown, Chief Construction Attorney, Department of Business and Professional Regulation, Office of the General Counsel, 2601 Blair Stone Road, Tallahassee, Florida 32399-2202. If you are hearing or speech impaired, please contact the agency using the Florida Relay Service, 1(800)955-8771 (TDD) or 1(800)955-8770 (Voice).

If any person decides to appeal any decision made by the Board with respect to any matter considered at this meeting or hearing, he/she will need to ensure that a verbatim record of the proceeding is made, which record includes the testimony and evidence from which the appeal is to be issued.

For more information, you may contact Ian Brown, Chief Construction Attorney, Department of Business and Professional Regulation, Office of the General Counsel, 2601 Blair Stone Road, Tallahassee, Florida 32399-2202.

DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION

Board of Accountancy

The Committee on Continuing Professional Education announces a telephone conference call to which all persons are invited.

DATE AND TIME: February 28, 2018, 9:30 a.m.

PLACE: Teleconference: phone number: 1(888)670-3525, participant code: 4694532213

GENERAL SUBJECT MATTER TO BE CONSIDERED: The Committee on Continuing Professional Education will meet to discuss items relating to CPE credits.

A copy of the agenda may be obtained by contacting: Karan Lee, Florida Board of Accountancy, 240 NW 76th Drive, Suite A, Gainesville, Florida 32607.

Pursuant to the provisions of the Americans with Disabilities Act, any person requiring special accommodations to participate in this workshop/meeting is asked to advise the agency at least 2 days before the workshop/meeting by contacting: Karan Lee. If you are hearing or speech impaired, please contact the agency using the Florida Relay Service, 1(800)955-8771 (TDD) or 1(800)955-8770 (Voice).

If any person decides to appeal any decision made by the Board with respect to any matter considered at this meeting or hearing, he/she will need to ensure that a verbatim record of the proceeding is made, which record includes the testimony and evidence from which the appeal is to be issued.

For more information, you may contact: Karan Lee.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

The Department of Environmental Protection, Division of Air Resource Management, announces a hearing to which all persons are invited.

DATE AND TIME: March 13, 2018, 10:00 a.m.

PLACE: Department of Environmental Protection, Bob Martinez Center, 2600 Blair Stone Road, Room 195, Tallahassee, Florida

GENERAL SUBJECT MATTER TO BE CONSIDERED: Pursuant to 40 CFR 51.102, the Department of Environmental Protection (DEP) announces a public hearing and opportunity **to offer comments on a proposed revision to Florida's State** Implementation Plan (SIP) under the Clean Air Act. This proposed SIP revision consists of a request to redesignate the portion of Hillsborough County that is designated as **"nonattainment" with respect to the 2008 revised lead national ambient air quality standard (NAAQS) to "attainment" and a** request to approve an associated maintenance SIP that will ensure the continued attainment of the 2008 lead NAAQS in the **area. The materials comprising DEP's proposed SIP revision may be obtained through the Department's website at** https://floridadep.gov/air/air-business-planning/content/air-regulatory-projects or by contacting Hastings Read at Hastings.Read@dep.state.fl.us. The materials may also be inspected during normal business hours at DEP, Division of Air Resource Management offices, Bob Martinez Center, 2600 Blair Stone Road, Tallahassee, Florida. A public hearing will be held, if requested, at the date, time and place given above. Any request for a public hearing must be submitted by letter or e-mail to Hastings Read, Department of Environmental Protection, Division of Air Resource Management, 2600 Blair Stone Road, MS #5500, Tallahassee, Florida 32399-2400 (Hastings.Read@dep.state.fl.us), and received no later than March 9, 2018. A copy of the agenda may be obtained by contacting: Mr. Read by letter or email at the above addresses or by calling (850) 717-9017. It is not necessary that the hearing **be held or attended for persons to comment on DEP's proposed** submittal to EPA. Any comments must be submitted to Hastings Read by letter or email, with a copy to Terri Long (Terri.Long@dep.state.fl.us), and received no later than March 9, 2018.

If no request for a public hearing is received, the hearing will be cancelled, and notice of the cancellation will be posted at the following website: https://www.fldepnet.org/public-notices.

Persons may also contact Terri Long at (850) 717-9023 to find out if the hearing has been cancelled. Pursuant to the provisions of the Americans with Disabilities Act, any person requiring special accommodations to participate in this workshop/meeting is asked to advise the agency at least 48 hours before the workshop/meeting by contacting Terri Long at (850)717-9023 or Terri.Long@dep.state.fl.us. If you are hearing or speech impaired, please contact the agency using the Florida Relay Service, (800) 955-8771 (TDD) or (800) 955-8770 (Voice).

For more information, you may contact Hastings Read by letter or email, or by calling (850)717-9017.

Public Participation

Documentation will be added upon completion of the 30-day comment period for the pre-hearing submittal and public notice.

Appendix A

3. AIR QUALITY MODELING DEMONSTRATION

3.1. Model Selection and Control Options

The AERMOD modeling system (including the terrain processor, AERMAP, and the meteorological data processor, AERMET) was used to analyze the impact on the surrounding area of the expanded/modernized configuration of the facility. Federally enforceable permit emissions limits were used as model inputs. The EPA AERMOD post-processor LEADPOST was utilized to calculate the Pb NAAQS design value from the monthly modeled output. The modeling demonstration utilized the most current versions of the AERMOD models available at the time the modeling demonstration was performed. Those model versions used are listed below in **Table 4**.

Table 4
Model Versions Used in Air Quality Modeling Demonstration

MODEL	VERSION
AERMOD	12060
AERMET	11059
AERMAP	11103
LEADPOST	12114

A series of specific model features in AERMOD, recommended by EPA, are referred to as the regulatory options. These EPA-recommended regulatory options were used in the modeling analysis.

3.2. Modeled Sources

This air quality modeling demonstration includes all Pb-emitting sources for the EnviroFocus facility as well as a complete Pb modeling inventory of surrounding sources within 50 kilometers of the Significant Impact Area (SIA). Stack parameters and other source characteristics for EnviroFocus were obtained through the air construction permit. Data for the modeling inventory for surrounding sources were obtained from DEP's Air Resource Management System (ARMS) database.

Fugitive emissions associated with paved roadways (i.e., truck traffic) on the EnviroFocus property were modeled based on the methodology described in the Texas Natural Resource Conservation Commission's guidelines which was specifically developed for modeling roadway fugitive emissions. Similar to the ISC User's Guide (EPA, 1995d), emissions from roadways are represented as a series of volume sources (229 individual road segments). Emission factors were estimated based upon emissions formulas presented in Section 13 of AP-42. Since shipping is conducted with 18-wheeler trucks, maximum vehicle width and height for the State of Florida were used to estimate the dimensions of the volume sources. The modeling assumes continuous truck traffic from 6:00 A.M. to 10:00 P.M., seven days a week, which is a conservative estimate. This methodology for modeling fugitive emissions from roadways as described above was proposed by EnviroFocus and its consultant in 2009 as part of their original permit modeling demonstration which, essentially, is the same modeling demonstration outlined in this document.

At that time, both DEP and EPA concluded that this was a reasonable methodology for estimating fugitive emissions associated with on-site truck traffic.

Tables 5 - 9 summarize the source parameters and Pb emission rates for EnviroFocus and the Pb modeling inventory of surrounding sources:

Table 5
EFT Modeling Source Parameters - Point Sources
EnviroFocus Technologies, LLC
Tampa, Florida

Source ID	Source	Coordinates		Exit Flowrate		Diameter		Exit Velocity[1]	Temperature		Stack Height	
		UTMx (m)	UTMy (m)	(ft^3/min)	(m^3/sec)	(in)	(m)	(m/sec)	(F)	(K)	(ft)	(m)
E1	Refinery Combustion Stack C[2]	364,053	3,093,769	2000	0.94	24	0.61	3.2	450	505	54.76	16.7
E2	Refinery Combustion Stack B[2]	364,058	3,093,753	2000	0.94	24	0.61	3.2	450	505	54.11	16.5
E3	Refinery Combustion Stack A[2]	364,081	3,093,769	1000	0.47	17	0.43	3.2	450	505	89.25	27.2
E4	Combined Stack of Feed Dryer, Reverb Furnace and Blast Furnace	364,057	3,093,807	58886	27.8	60	1.52	15.2	150	339	130	39.6
E6	Hygiene Baghouse and Stack	364,092	3,093,823	72000	34.0	60	1.52	18.6	150	339	130	39.6
E7	Torit Building Ventilation Torit Stack	364,134	3,093,819	195000	92.0	96	2.44	19.7	ambient	ambient	130	39.6
E8	Breaker Scrubber Stack	364,176	3,093,758	25,700	12.1	42	1.07	13.6	ambient	ambient	130	39.6
E9	Silo Bin Vent	364,181	3,093,742	650	0.31	16	0.41	0.001	ambient	ambient	70	21.3
E10	Silo Bin Vent	364,183	3,093,736	650	0.31	16	0.41	0.001	ambient	ambient	70	21.3
E11	Soda Ash Slurry Exhaust	364,184	3,093,740	800	0.38	8	0.20	11.6	300	422	20.2	6.2
E12	Geneartor Exhaust	364,179	3,093,737	3845	1.8	8	0.20	56.0	941	778	11.2	3.4
E15	Silo Bin Vent	364,195	3,093,833	650	0.31	16	0.41	0.001	ambient	ambient	35	10.7
E16	Plastics Bin Vent	364,215	3,093,740	1,750	0.83	14	0.36	0.001	ambient	ambient	68.5	20.9
E18	Propane Vaporizer	364,030	3,093,858	500	0.24	8	0.20	0.001	600	589	9	2.8
NEW_PL1	New Baghouse Stack	364,227	3,093,785	160000	75.5	96	2.44	16.2	ambient	ambient	90.0	27.4

Notes:
[1] Stacks with rain caps were modeled with a 0.001 m/sec exit velocity.
[2] Stack A represented two co-ocated stacks with flowrate and stack area equivalent of two stacks. Stacks B and C each represented four co-located stacks with flowrate and stack area equivalent of four stacks.

Table 6
EFT Modeling Source Parameters - Volume Sources
EnviroFocus Technologies, LLC
Tampa, Florida

Source	Coordinates		Height (m)	Width (m)	Release Height (m)	Initial Lateral Dimension (m)	Initial Vertical Dimension (m)
	UTMx (m)	UTMy (m)					
Plastics Plant	364217	3093782	17.4	40	8.7	9.30	8.09

Table 7
Physical and Modeling Parameters of Road Emissions
EnviroFocus Technologies, LLC
Tampa, Florida

Source	Parameters		
Truck Traffic on Paved Roads	Length	10,730	feet
		3,271	meters
	Width	2.59	meters
	Adjusted width[1]	8.59	meters
	Maximum vehicle height in Florida	14	feet
		4	meters
	Release height	4.1	meters
	Height of volume source	8.23	meters
	Initial vertical dimension	3.80	meters
	Hours of truck traffic	16 h/day - 6:00am to 10:00pm	

Note:
[1] Adjusted road widths were calculated based on the maximum vehicle width in Florida and the Texas Natural Resource Conservation Commission (TNRCC) modeling guidelines (TNRCC 1999).

Reference:
Texas Natural Resources Conservation Commission (TNRCC). 1999. *Air Quality Modeling Guidelines*. February.
(http://www.tnrcc.state.tx.us/permitting/airperm/nsr_permits/admt/guid_docs/rg25.pdf)

Florida Department of Transportation.2006.*Commercial Motor Vehicle Manual*.
(http://www.dot.state.fl.us/mcco/downloads/TruckingManual%20-%206th%20Edition%202006%20english.pdf)

Table 8
EFT Modeling Pb Emission Rates
EnviroFocus Technologies, LLC
Tampa, Florida

Source ID	Source Type	Source Description	Emission Rate (g/s)
E1	Point	Refinery Combustion Stack C	1.01E-06
E2	Point	Refinery Combustion Stack B	1.01E-06
E3	Point	Refinery Combustion Stack A	5.04E-07
E4	Point	Combined Stack of Feed Dryer, Reverb and Blast Furnaces	0.00643
E6	Point	Hygiene Baghouse and Stack	0.00592
E7	Point	Torit Building Ventilation Torit Stack	0.00466
E8	Point	Breaker Scrubber Stack	0.0097
E9	Point	Silo Bin Vent	0.0
E10	Point	Silo Bin Vent	0.0
E11	Point	Soda Ash Slurry Exhaust	3.15E-08
E12	Point	Generator Exhaust	0.0
E15	Point	Silo Bin Vent	0.0
E16	Point	Plastics Bin Vent	0.0
E18	Point	Propane Vaporizer	0.0
NEW_PL1	Point	New Building Ventilation Stack	0.00378
PLASTIC	Volume	Plastics Plant	0.0
RD1_1 – RD16_14	Volume	Truck Traffic Roadway Segments (229)	Emission rates for road segments range from 2.45E-07 to 1.15E-05

Table 9

Summary of Lead AAQS Modeling Inventory
EnviroFocus Technologies, LLC
Tampa, Florida

Facility ID	Company Name	SourceID	Coordinates		Elevation	Emission Rate	Stack Height	Exit Temperature	Velocity	Diameter
			UTMx (m)	UTMy (m)	(m)	(g/s)	(m)	(K)	(m/s)	(m)
570001	JOHNSON CONTROLS BATTERY GROUP, INC	1_1[a]	359900	3102500	13.5	6.62E-03	11.6	308	9.9	0.9
		1_2	359900	3102500	13.5	1.61E-03	10.7	350	42.5	0.2
		1_3	359900	3102500	13.5	6.04E-04	24.4	311	15.0	0.3
		1_4	359900	3102500	13.5	1.47E-03	21.3	311	11.6	0.3
		1_5	359900	3102500	13.5	2.65E-03	10.1	316	10.9	0.8
		1_6[a]	359900	3102500	13.5	7.19E-03	11.6	305	10.8	0.9
		1_7	359900	3102500	13.5	5.67E-03	12.2	311	11.2	0.8
		1_8	359900	3102500	13.5	3.62E-03	9.1	316	14.1	0.6
		1_9	359900	3102500	13.5	6.82E-03	15.2	315	16.2	0.8
		1_10	359900	3102500	13.5	6.33E-04	10.7	311	13.9	0.4
		1_11[a]	359900	3102500	13.5	4.03E-07	N/A	N/A	N/A	N/A
		1_12	359900	3102500	13.5	5.75E-05	12.2	589	4.8	0.1
		1_13	359900	3102500	13.5	1.96E-03	21.3	380	18.4	0.4
		1_14	359900	3102500	13.5	8.05E-04	12.2	350	12.9	0.3
		1_15[d]	359900	3102500	13.5	1.87E-03	12.2	330	15.3	0.5
		1_16	359900	3102600	12.4	1.12E-02	11.6	314	19.8	1.0
		1_17	359900	3102500	13.5	6.90E-03	15.2	303	15.0	0.8
		1_18[d]	359900	3102500	13.5	3.42E-06	11.6	314	14.0	1.0
570005	CF INDUSTRIES, INC., PLANT CITY PHOS	2_1	388000	3115700	25.6	6.62E-07	28.7	326	7.9	3.0
		2_2	388000	3115700	25.6	2.88E-08	49.7	331	13.1	2.8
		2_3	388000	3116000	25.9	1.73E-07	41.5	336	11.9	2.8
		2_4[b]	388000	3116000	25.9	1.73E-07	41.5	336	11.9	2.8
570008	MOSAIC FERTILIZER, LLC	3_1	364590	3082380	0.0	6.33E-07	38.4	329	11.3	2.4
		3_2	362900	3082500	1.5	9.49E-07	40.5	315	15.2	2.1
		3_3[b]	364590	3082380	0.0	3.16E-07	38.1	329	11.3	1.8
570018	VULCAN MATERIALS CO / FLORIDA ROCK DIV.	4_1	357900	3090700	1.3	1.44E-07	25.3	298	18.9	1.0
		4_2	357900	3090700	1.3	8.63E-08	25.3	298	18.9	1.0
		4_3	357890	3090700	1.2	1.44E-07	27.4	298	69.5	0.3
		4_4	357900	3090700	1.3	1.44E-07	4.9	298	16.8	0.7
		4_5	357900	3090700	1.3	8.63E-08	17.4	298	17.1	0.7
		4_6	357900	3090700	1.3	8.63E-08	9.1	298	16.8	0.7
570028	NEW NGC, INC.	5_1	347300	3082700	1.2	5.75E-06	14.3	427	20.4	0.8
570039	TAMPA ELECTRIC COMPANY (TEC)	6_1	361716	3075060	0.0	6.98E-03	149.4	419	35.3	7.3
		6_2	361720	3074980	0.0	4.82E-03	149.4	325	26.7	7.3
		6_3	361820	3075060	0.0	6.11E-03	149.4	426	15.6	7.3
		6_4	361820	3075040	0.1	7.20E-03	149.4	326	18.1	7.3
570089	ST. JOSEPH'S HOSPITAL	7_1	353300	3095900	10.1	2.32E-03	24.4	478	12.6	0.6
		7_2	353040	3095090	10.7	1.12E-06	9.1	464	12.8	0.3
570127	CITY OF TAMPA	8_1	360200	3092210	0.9	5.67E-03	61.3	430	22.3	1.3
		8_2	360200	3092210	0.9	5.67E-03	61.3	430	22.3	1.3
		8_3	360200	3092210	0.9	5.67E-03	61.3	430	22.3	1.3
		8_4	360200	3092210	0.9	5.67E-03	61.3	430	22.3	1.3
570160	BALL METAL BEVERAGE CONTAINER CORP.	9_1	362000	3103200	21.4	3.74E-07	13.1	380	9.0	0.5
		9_2	362000	3103200	21.4	5.18E-07	15.5	455	20.4	0.0
		9_3	362000	3103200	21.4	1.15E-07	15.8	369	7.5	0.3
		9_4	362000	3103200	21.4	2.59E-07	15.8	369	7.5	0.3
		9_5[b]	362000	3103200	21.4	8.63E-08	15.5	455	20.4	0.0
570261	HILLSBOROUGH CTY. RESOURCE RECOVERY FAC.	10_1	368200	3092700	10.9	7.54E-03	67.1	416	22.1	1.6
		10_2	368200	3092700	10.9	7.54E-03	67.1	416	22.1	1.6
		10_3	368200	3092700	10.9	7.54E-03	67.1	416	22.1	1.6
		10_4	368200	3092700	10.9	5.68E-05	67.1	405	31.1	1.6
570286	TAMPA SHIP, LLC	11_1[a]	358000	3089000	0.0	2.40E-04	N/A	N/A	N/A	N/A
570293	STAR PACKAGING CORPORATION	12_1	350600	3082200	3.1	2.01E-07	9.1	372	109.8	0.3
570320	DART CONTAINER CORPORATION OF FLORIDA	13_1	384900	3098200	44.0	9.21E-07	8.5	450	7.3	0.6
		13_2	384900	3098200	44.0	4.03E-07	8.5	450	10.4	0.6
		13_3	384900	3098200	44.0	3.74E-07	7.6	383	7.8	0.6
570324	TAMPA STEEL ERECTING COMPANY	14_1[a]	362200	3086700	1.5	5.18E-03	N/A	N/A	N/A	N/A
570373	CITY OF TAMPA-WASTEWATER DEPT.	15_1	364000	3089500	4.2	1.07E-02	22.9	375	25.2	0.9
570460	JAMES HARDIE BUILDING PRODUCTS, INC.	16_1	387060	3089520	24.7	1.55E-06	9.1	519	14.5	0.6
		16_2	387060	3089520	24.7	3.45E-07	9.1	519	14.5	0.6
		16_3[b]	387060	3089520	24.7	2.30E-07	6.7	533	14.5	0.6
		16_4[b]	387060	3089520	24.7	2.88E-08	6.7	533	14.5	0.6
570480	UNIVERSITY OF SOUTH FLORIDA (USF)	17_1[b]	360770	3104760	11.6	1.04E-06	19.8	450	5.0	1.4
		17_2[b]	360770	3104760	11.6	1.38E-06	19.8	450	5.0	1.4
571209	THE LANE CONSTRUCTION COMPANY	18_1	359860	3088090	0.3	2.16E-05	9.4	422	26.9	1.2
571242	NEW NGC, INC., D/B/A NATIONAL GYPSUM COM	19_1	364700	3075630	4.6	6.90E-07	29.9	450	17.7	1.1
		19_2	364700	3075630	4.6	7.77E-07	29.9	450	17.6	1.1
		19_3	364700	3075630	4.6	3.85E-06	16.5	469	6.7	4.1
		19_4	364700	3075630	4.6	6.90E-07	29.9	450	8.6	1.1
		19_5	364700	3075630	4.6	6.90E-07	29.9	450	8.6	1.1
810010	FLORIDA POWER & LIGHT (PMT)	20_1	367150	3054230	16.8	3.10E-04	152.1	446	23.8	8.3
		20_2	367150	3054230	16.8	3.03E-04	152.1	436	25.1	8.0
1010017	FLORIDA POWER CORPDBAPROGRESS ENERGY FL	21_1	324440	3118930	2.9	2.50E-04	152.1	433	18.9	7.3
		21_2	324440	3118930	2.9	2.48E-04	152.1	433	18.9	7.3
1010056	PASCO COUNTY	22_1[c]	347110	3139110	14.9	1.10E-02	83.8	394	25.0	1.4
		22_2	347110	3139110	14.9	1.10E-02	83.8	394	25.0	1.4
		22_3	347110	3139110	14.9	1.10E-02	83.8	394	25.0	1.4
1030011	FLORIDA POWER CORPDBAPROGRESS ENERGY FLA	23_1	343870	3082690	0.0	2.04E-06	13.7	772	21.1	5.5
		23_2	343870	3082690	0.0	4.17E-06	13.7	772	21.1	5.5
		23_3	342570	3082680	0.3	5.75E-08	9.1	541	5.2	0.9
		23_4	343870	3082690	0.0	7.77E-07	13.7	772	21.1	5.5
1030013	FLORIDA POWER CORPDBAPROGRESS ENERGY FLA	24_1	338860	3071480	0.4	1.84E-06	12.2	755	6.4	7.0
		24_2	338860	3071480	0.4	2.70E-06	12.2	755	6.4	7.0
		24_3	338860	3071480	0.4	3.42E-06	12.2	755	6.4	7.0
		24_4	338860	3071480	0.4	1.90E-06	12.2	755	6.4	7.0
1030117	PINELLAS COUNTY UTILITITES ADMIN.	25_1	335270	3084310	2.7	2.64E-02	50.3	405	21.8	2.6
		25_2	335270	3084310	2.7	2.64E-02	50.3	405	21.8	2.6
		25_3	335270	3084310	2.7	2.64E-02	50.3	405	21.8	2.6
1030153	HOWCO ENVIRONMENTAL SERVICES, INC.	26_1	333230	3071930	10.9	8.12E-04	7.6	361	7.2	0.1

Facility ID	Company Name	SourceID	Coordinates		Elevation	Emission Rate	Stack Height	Exit Temperature	Velocity	Diameter
			UTMx (m)	UTMy (m)	(m)	(g/s)	(m)	(K)	(m/s)	(m)
		27_1	337690	3083860	1.5	3.45E-03	7.6	311	13.9	0.6
		27_2	336370	3082590	2.1	3.45E-03	5.5	311	5.0	1.1
1030278	JABIL CIRCUIT, INC.	27_3	337660	3083640	1.5	3.45E-03	7.6	311	13.9	0.6
		28_1	409000	3102800	40.7	8.63E-04	47.2	523	26.1	4.9
		28_2	409100	3102800	40.5	2.88E-08	9.4	700	30.8	3.6
1050003	LAKELAND ELECTRIC	28_3	409100	3102800	40.5	2.88E-08	9.4	700	30.8	3.6
		29_1	409100	3106300	41.1	2.88E-06	6.1	653	23.5	0.8
		29_2	409200	3106200	39.6	2.56E-06	47.9	409	22.3	3.2
		29_3	409300	3106300	39.6	3.64E-03	76.2	348	25.2	5.5
		29_4	409200	3106200	39.6	8.63E-08	45.7	409	24.7	2.7
1050004	LAKELAND ELECTRIC	29_5	409200	3106400	41.7	2.88E-08	10.7	755	24.2	4.1
		30_1	409770	3087260	64.0	2.22E-06	42.7	329	16.2	3.3
1050046	MOSAIC FERTILIZER, LLC	30_2[b]	409770	3087260	64.0	5.47E-07	4.6	329	16.2	0.6
1050055	MOSAIC FERTILIZER LLC	31_1[c]	407250	3073280	39.0	2.88E-05	43.9	350	12.5	2.7
		32_1	402440	3067360	41.8	3.74E-03	45.7	444	23.1	5.8
1050233	TAMPA ELECTRIC COMPANY	32_2	402440	3067360	41.8	3.74E-07	22.9	464	15.2	1.1
		33_1[b]	356400	3091000	0.3	2.88E-08	36.6	300	5.0	1.8
570041	FLORIDA HEALTH SCIENCES CTR, INC	33_2[b]	356400	3091000	0.3	5.75E-08	22.9	297	5.0	0.9
570061	TAMPA ARMATURE WORKS	34_1	365660	3091750	5.9	2.88E-08	4.6	922	0.3	0.6
570097	OLDCASTLE RETAIL, INC. D/B/A BONSAL AMER	35_1	363600	3098500	19.4	1.73E-07	3.7	394	18.0	0.8
570141	US AIR FORCE (MACDILL AFB)	36_1[b]	353500	3081500	1.8	2.88E-08	10.7	ambient	5.0	0.6
570223	APAC-SOUTHEAST, INC CENTRAL FLORIDA DIV.	37_1[d]	364000	3098100	20.1	5.75E-08	9.1	ambient	14.9	1.4
570254	VERTIS, INC.	38_1[d]	350300	3086400	1.5	1.44E-07	10.7	589	12.5	1.3
570296	FCC ENVIRONMENTAL, LLC	39_1	389000	3098000	37.0	8.63E-08	10.7	672	95.7	0.3
570442	GULF MARINE REPAIR/HENDRY CORPORATIONS	40_1[a]	360300	3091900	0.6	9.21E-07	N/A	N/A	N/A	N/A
571151	INTERNATIONAL PAPER COMPANY	41_1[b]	362800	3098300	12.0	3.45E-07	10.4	ambient	5.0	0.6
571240	CARGILL INC.- SALT DIVISION	42_1	359750	3090370	0.0	8.63E-08	6.7	339	14.4	0.8
		43_1[a]	360350	3105080	13.5	3.45E-07	21.0	486	5.0	0.8
		43_2[a]	360350	3105080	13.5	3.16E-07	21.0	486	5.0	0.8
571269	H. LEE MOFFITT CANCER CENTER	43_3[b]	360350	3105080	13.5	2.59E-07	21.0	486	5.0	0.6
810063	AJAX PAVING INDUSTRIES, INC.	44_1	347830	3056590	1.5	3.45E-07	10.4	422	101.5	0.7
		45_1	336690	3098650	1.5	8.63E-08	16.8	728	28.4	4.6
	FLORIDA POWER CORPDBAPROGRESS	45_2	336620	3098660	1.5	2.88E-08	16.8	728	28.4	4.6
1030012	ENERGY FLA	45_3	336580	3098660	1.4	8.63E-08	16.8	728	28.4	4.6
1030044	SUNCOAST PAVING, INC.	46_1	325980	3116940	2.9	9.21E-07	12.2	394	28.7	0.9
1030400	LOCKHEED MARTIN AERONAUTICS COMPANY	47_1	335310	3082580	3.1	2.88E-08	12.8	298	15.3	0.9
1050015	US BEVERAGE PACKING LAKELAND PLANT	48_1	399070	3102070	37.0	2.88E-06	10.1	447	5.2	0.6
1050034	MOSAIC FERTILIZER LLC	49_1	392960	3058550	40.8	8.63E-08	7.9	478	7.2	0.3
1050095	LAKELAND REGIONAL MEDICAL CENTER	50_1[b]	406920	3104070	39.6	2.88E-08	3.0	ambient	5.0	0.3
1050097	ARRMAZ CUSTOM CHEMICALS	51_1	408270	3085730	51.8	2.88E-08	4.6	450	85.0	0.4
1050312	MASTER CONTAINERS, INC.	52_1[b]	404120	3085820	33.5	1.15E-07	7.3	ambient	5.0	0.3

Notes:

[a]Modeled as volume source with parameters: Side length = 10m, release height = 5m

[b]Missing data was filled in with conservative assumptions

[c]Duplicate records removed

[d]Dry standard cubic feet per minute used as the flow rate

3.3. Meteorological Data Selection

The AERMET meteorological data used for this analysis consisted of a continuous 5-year period of hourly surface weather observations and twice-daily upper air soundings from the Tampa International Airport and the National Weather Service at Ruskin, respectively. The 5-year period of meteorological data was from 2006 through 2010. This meteorological data set was provided by DEP and processed using AERMINUTE in order to reduce the number of calms and missing winds in the surface data. EPA has established criteria for the use of meteorological data for modeling purposes that states that meteorological data should be 90% complete on a quarterly basis before any substitutions are made.[2] The 2006-2010 dataset satisfies the 90% completeness requirement.

3.4. Surface Characteristics

Prior to running AERMET, it is necessary to specify the surface characteristics of the location being modeled. This was done using the AERMET preprocessor, AERSURFACE. A sensitivity analysis was conducted comparing the surface characteristics (i.e., surface roughness, Bowen

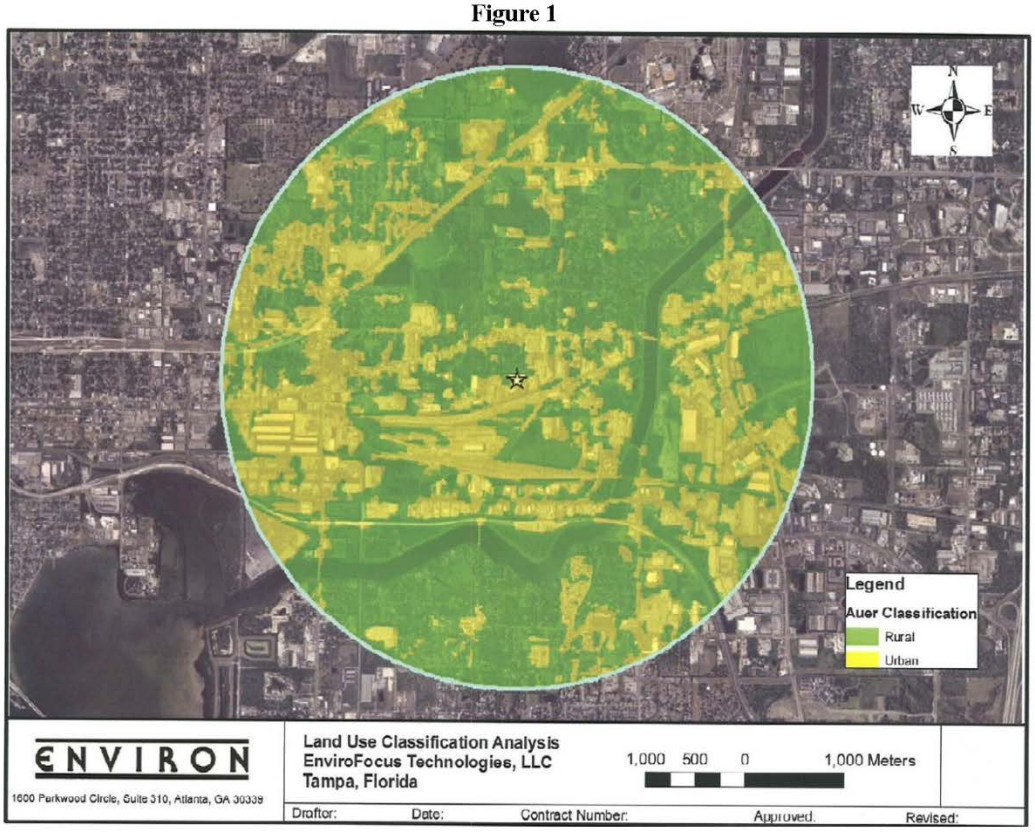
[2] Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, EPA-454/R-99-005, *Meteorological Monitoring Guidance for Regulatory Modeling Applications,* (February 2000).

ratio, etc.) measured at the Tampa International Airport with those around the EnviroFocus facility. Both surface characteristics resulted in the same maximum 3-month rolling average Pb concentration while the surface characteristics at the airport produced a larger SIA. Therefore, the Tampa International Airport surface dataset was used for this modeling demonstration.

3.5. Land Use Classification

Land-use classification was determined using Auer's[3] method. This method calls for analysis of the land use within a three-kilometer radius around a facility to determine if the majority of the land can be classified as either rural or urban. If more than fifty percent of the three-kilometer area consists of Auer land-use industrial, commercial, or residential land types, then urban dispersion coefficients are used in modeling; otherwise, rural dispersion coefficients are used. As shown in **Figure 1** below, the "rural" land use constitutes a majority of the three-kilometer radius area around EnviroFocus; hence, the facility is categorized as a rural area.

Figure 1



[3] Auer, Jr., A.H. "Correlation of Land Use and Cover with Meteorological Anomalies". Journal of Applied Meteorology, 17:636-643, 1978.

3.6. Terrain Data

Terrain elevations were incorporated into the modeling using AERMAP. For this modeling exercise, terrain data were extracted from 7.5-minute Digital Elevation Model (DEM) files with a 30-meter grid spacing that were produced by the United States Geological Survey (USGS).

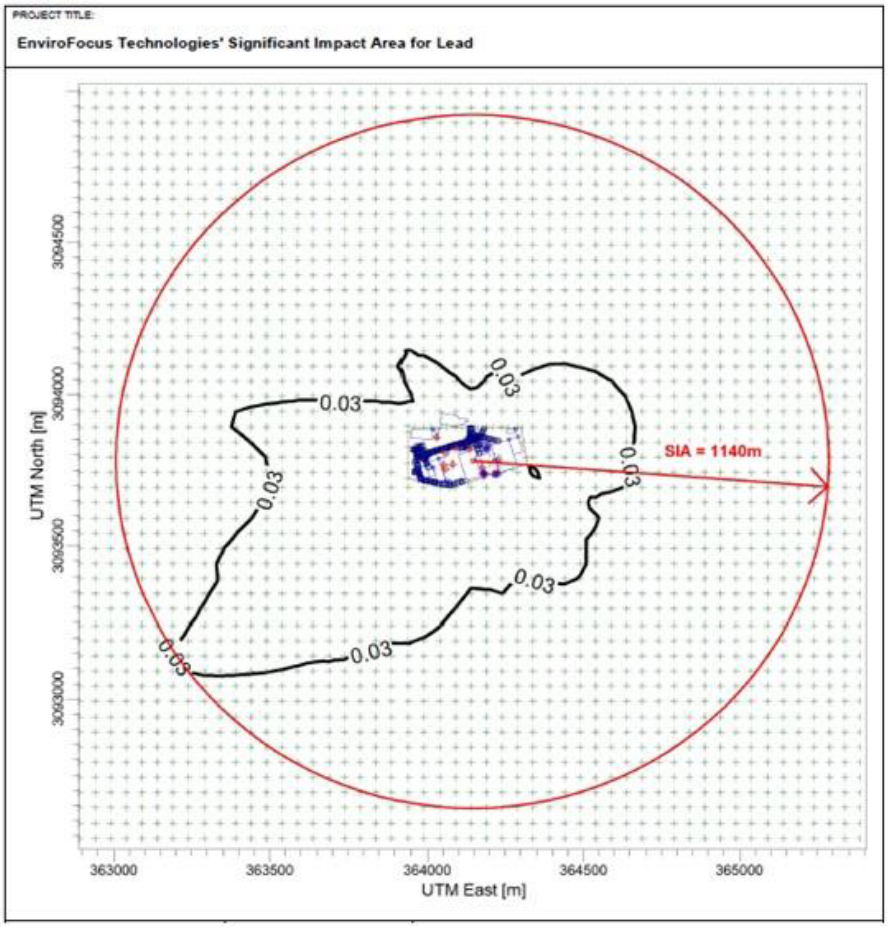
3.7. Building Downwash

For this air quality modeling demonstration, the EPA-approved Plume Rise Model Enhancements (PRIME) algorithm was utilized to determine the direction-specific building downwash parameters. Concentrations were predicted in both the near and far wake regions, with the plume mass captured by the near wake treated separately from the uncaptured primary plume, and reemitted to the far wake as a volume source. Direction-specific downwash parameters were used for all sources for which downwash was considered. The stacks associated with the project all satisfied the good engineering practice (GEP) stack height criteria, as they are all below 65 meters. Modeled building parameters are available upon request.

3.8. Receptor Grid

A Cartesian grid was used with receptor spacing of 50 meters. The grid extends just beyond the SIA which extends up to 1.14 kilometers away from the facility as depicted in **Figure 2**. In addition to the Cartesian receptor grid, the modeling also includes discrete receptor points, spaced every 50 meters, along the facility property boundary. The EnviroFocus facility property boundary is completely fenced with electronic gates and guard service, which precludes the general public from accessing the facility.

Figure 2



3.9. Background Concentration

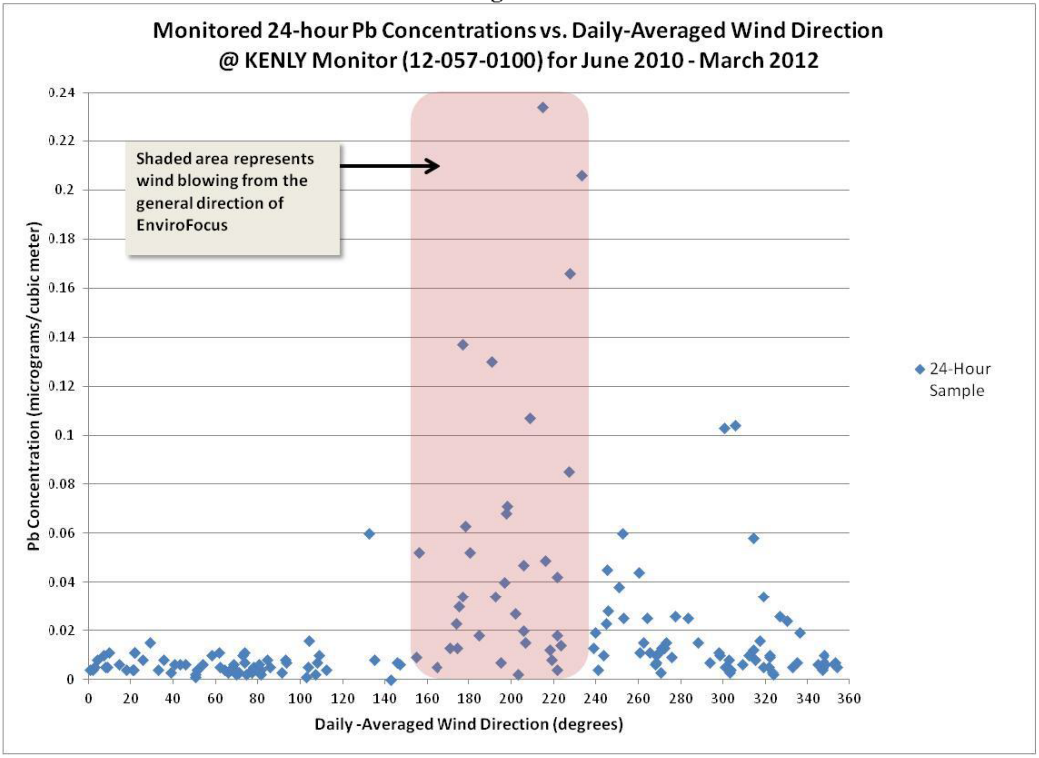
A Pb background concentration was selected based on local Pb monitoring data from monitoring station No. 12-057-0100 (known as the new "Kenly" monitor) for the period June 2010 to March 2012. These data were obtained from the EPA Air Quality System. This monitor is approximately 0.9 km to the north of EnviroFocus, and the location relative to the facility is shown in **Figure 3**. Due to its close proximity to the EnviroFocus facility, monitored concentrations at this station are strongly influenced by facility emissions as illustrated in **Figure 4**. As a result, the data were filtered to remove measurements where the wind direction could transport pollutants from EnviroFocus to the station[4]. More specifically, the data were filtered to

[4] This is a common practice used for developing background concentrations. Details of the procedures are outlined in 40 CFR Part 51 Appendix W – EPA's *Guideline on Air Quality Models*.

remove measurements where at least one hour in the 24-hour measurement period had wind direction in the range of 175° to 200°.

Figure 3

Figure 4

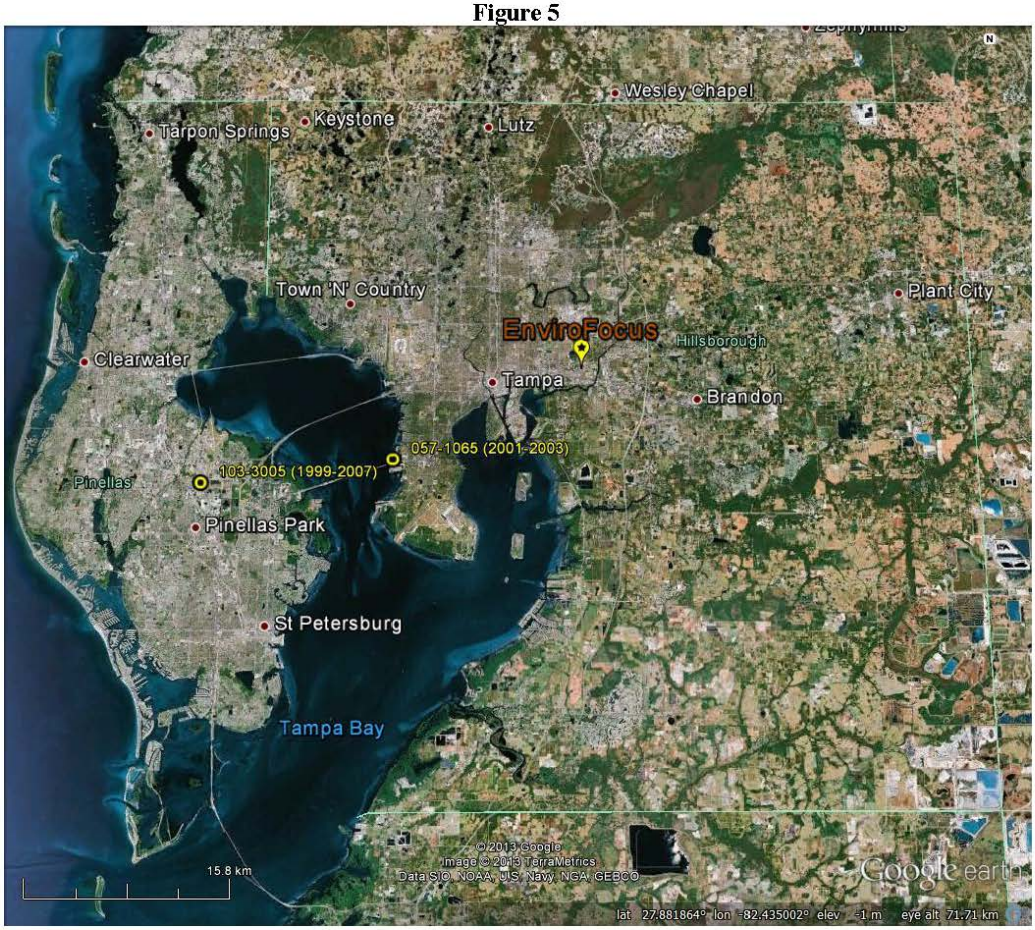


This analysis used hourly wind speed and direction data for the monitored period obtained for Tampa Airport in ISD-Lite format from NOAA. After filtering, a total of 116 out of 164 24-hour samples remained that were not directly influenced by EnviroFocus. In other words, 71% of the samples remained and, therefore, the robustness of the dataset was not compromised. Monthly averages were calculated from the filtered data, and rolling 3-month averages were then computed from this monthly data. The highest 3-month average calculated over the monitoring period, 0.016 $\mu g/m^3$, was then used as the Pb background concentration.

3.10. Historical Pb Monitoring

DEP compared the derived 0.016 $\mu g/m^3$ Pb background concentration to data from two historical Pb regulatory monitors in the area. Monitoring station No. 12-103-3005 in Pinellas County was a source-oriented Pb monitor in the vicinity of the Pinellas Resource Recovery facility and operated from 1999 – 2007. Monitoring station No. 12-057-1065 in Hillsborough County is a currently operating multi-pollutant monitor that specifically monitored background Pb concentrations from 2001 – 2003. The location of these monitors in relation to EnviroFocus can be seen in **Figure 5**. The highest 3-month rolling average Pb concentrations monitored at these two locations during their years of operation were 0.007 $\mu g/m^3$ and 0.016 $\mu g/m^3$, respectively, which adds confidence that the Pb background concentration derived from the Kenly monitor is a true representative background concentration.

Figure 5



The impacts from the EnviroFocus facility are extremely localized. For instance, the Pb monitoring data from the old Tessy monitor (site ID 12-057-1074), which operated from 1998 through 2001 during a time when Pb violations occurred nearer the facility, complied with the previous Pb NAAQS of 1.5 $\mu g/m^3$ and would have also complied with the new Pb NAAQS of 0.15 $\mu g/m^3$ on a 3-month rolling average, as illustrated in **Figure 6**. The Tessy monitor was located about 1 km north of the facility, very near the location of the new Kenly monitor (site ID 12-057-0100). The Kenly monitor has also complied with the new Pb NAAQS, which is also illustrated in **Figure 6**. The location of all monitors in the vicinity of Envirofocus is pictured in **Figure 7**.

Figure 6

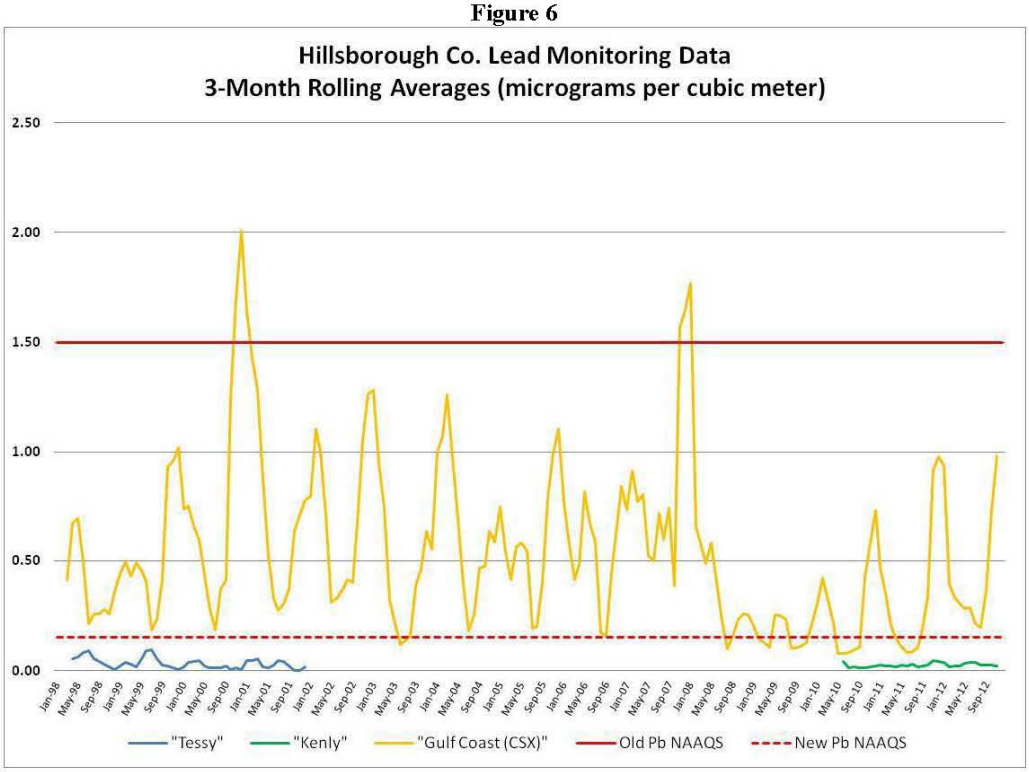

Hillsborough Co. Lead Monitoring Data
3-Month Rolling Averages (micrograms per cubic meter)
2.50
2.00
1.50
1.00
0.50
0.00
"Tessy"
"Kenly"
"Gulf Coast (CSX)"
Old Pb NAAQS
New Pb NAAQS

Figure 7

3.11. Summary of Modeling Results

As mentioned above, the EPA AERMOD post-processor LEADPOST was utilized to calculate the Pb NAAQS design value from the monthly modeled output. Below are tables (**Tables 10 – 14**) consisting of the ten highest Pb 3-month rolling averages for each year, 2006 through 2010, followed by a plot of maximum 3-month rolling averages at each receptor for all years (**Figure 8**). For complete modeling output, please see modeling files on attached CD containing the electronic copy of this SIP submittal. These concentrations do not include the 0.016 $\mu g/m^3$ background concentration:

Table 10

X	Y	Receptor Elevation	Hill Height	Flagpole Height	3-Month Rolling Average Concentration	Source Group	End Month	Year
364129.9063	3093710.5	9.13	9.13	0	**0.093**	ALL	December	***2006***
364022.9375	3093704	8.72	8.72	0	**0.087**	ALL	December	***2006***
363990	3093693	8.54	8.54	0	**0.087**	ALL	December	***2006***
364040	3093693	8.84	8.84	0	**0.086**	ALL	December	***2006***
364140	3093693	9.14	9.14	0	**0.083**	ALL	December	***2006***
363974.3125	3093715.5	8.22	8.22	0	**0.083**	ALL	December	***2006***
363940	3093643	8.96	8.96	0	**0.080**	ALL	December	***2006***
363990	3093643	9.14	9.14	0	**0.080**	ALL	December	***2006***
364177.6875	3093725.25	9.1	9.1	0	**0.078**	ALL	December	***2006***
363890	3093643	8.76	8.76	0	**0.077**	ALL	December	***2006***

Table 11

X	Y	Receptor Elevation	Hill Height	Flagpole Height	3-Month Rolling Average Concentration	Source Group	End Month	Year
364129.9063	3093710.5	9.13	9.13	0	**0.107**	ALL	December	***2007***
364129.9063	3093710.5	9.13	9.13	0	**0.105**	ALL	November	***2007***
364022.9375	3093704	8.72	8.72	0	**0.098**	ALL	November	***2007***
364040	3093693	8.84	8.84	0	**0.098**	ALL	November	***2007***
363990	3093693	8.54	8.54	0	**0.098**	ALL	November	***2007***
364040	3093693	8.84	8.84	0	**0.097**	ALL	December	***2007***
364022.9375	3093704	8.72	8.72	0	**0.096**	ALL	December	***2007***
364140	3093693	9.14	9.14	0	**0.096**	ALL	December	***2007***
363990	3093643	9.14	9.14	0	**0.096**	ALL	November	***2007***
363940	3093593	8.93	8.93	0	**0.096**	ALL	November	***2007***

Table 12

X	Y	Receptor Elevation	Hill Height	Flagpole Height	3-Month Rolling Average Concentration	Source Group	End Month	Year
364129.9063	3093710.5	9.13	9.13	0	**0.115**	ALL	November	***2008***
364129.9063	3093710.5	9.13	9.13	0	**0.106**	ALL	December	***2008***
364040	3093693	8.84	8.84	0	**0.104**	ALL	November	***2008***
364022.9375	3093704	8.72	8.72	0	**0.104**	ALL	November	***2008***
364140	3093693	9.14	9.14	0	**0.103**	ALL	November	***2008***
363990	3093693	8.54	8.54	0	**0.102**	ALL	November	***2008***
363990	3093643	9.14	9.14	0	**0.100**	ALL	November	***2008***
364129.9063	3093710.5	9.13	9.13	0	**0.098**	ALL	January	***2008***
364140	3093693	9.14	9.14	0	**0.097**	ALL	December	***2008***
363940	3093593	8.93	8.93	0	**0.096**	ALL	November	***2008***

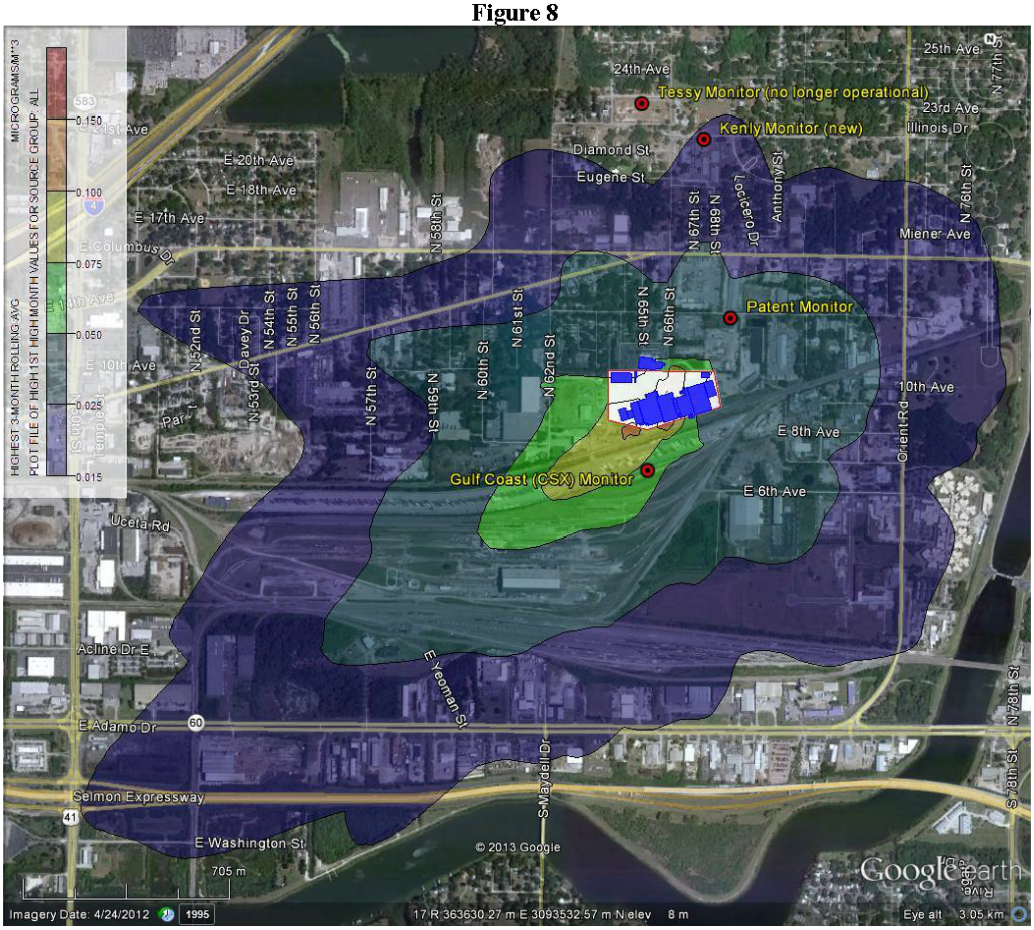
Table 13

X	Y	Receptor Elevation	Hill Height	Flagpole Height	3-Month Rolling Average Concentration	Source Group	End Month	Year
364129.9063	3093710.5	9.13	9.13	0	**0.104**	ALL	December	***2009***
364140	3093693	9.14	9.14	0	**0.098**	ALL	December	***2009***
364129.9063	3093710.5	9.13	9.13	0	**0.098**	ALL	January	***2009***
364140	3093693	9.14	9.14	0	**0.092**	ALL	January	***2009***
364160	3093891.25	8.52	8.52	0	**0.089**	ALL	August	***2009***
364177.6875	3093725.25	9.1	9.1	0	**0.088**	ALL	December	***2009***
364160	3093891.25	8.52	8.52	0	**0.087**	ALL	July	***2009***
364129.9063	3093710.5	9.13	9.13	0	**0.086**	ALL	November	***2009***
364177.6875	3093725.25	9.1	9.1	0	**0.084**	ALL	January	***2009***
364160	3093891.25	8.52	8.52	0	**0.082**	ALL	September	***2009***

Table 14

X	Y	Receptor Elevation	Hill Height	Flagpole Height	3-Month Rolling Average Concentration	Source Group	End Month	Year
364129.9063	3093710.5	9.13	9.13	0	**0.106**	ALL	January	***2010***
364140	3093693	9.14	9.14	0	**0.101**	ALL	January	***2010***
364129.9063	3093710.5	9.13	9.13	0	**0.099**	ALL	December	***2010***
364140	3093693	9.14	9.14	0	**0.097**	ALL	December	***2010***
364177.6875	3093725.25	9.1	9.1	0	**0.096**	ALL	December	***2010***
364177.6875	3093725.25	9.1	9.1	0	**0.095**	ALL	January	***2010***
364129.9063	3093710.5	9.13	9.13	0	**0.092**	ALL	November	***2010***
364129.9063	3093710.5	9.13	9.13	0	**0.091**	ALL	February	***2010***
364177.6875	3093725.25	9.1	9.1	0	**0.088**	ALL	February	***2010***
364140	3093693	9.14	9.14	0	**0.085**	ALL	February	***2010***

Figure 8



As indicated in **Table 15**, the maximum 3-month rolling average concentration from this modeling is 0.13 µg/m^3 (including the background concentration), which is below the revised Pb NAAQS. The modeling results revealed no violations of the Pb NAAQS within the nonattainment area or elsewhere.

Table 15
Summary of Modeling Results

Pollutant	Averaging Time	Maximum Predicted Impact (µg/m^3)	Background (µg/m^3)	Total Impact (µg/m^3)	NAAQS (µg/m^3)	Impact Greater Than NAAQS?
Pb	3-month rolling	0.115	0.016	0.13	0.15	NO