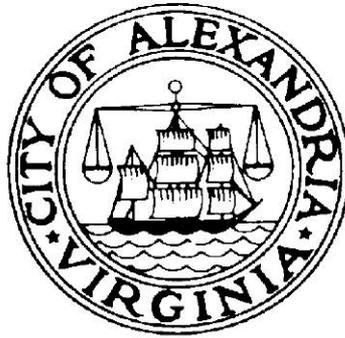


**2009 Virginia Paving Operations in Alexandria
Special Use Permit #2005-0042
Year 2009 Paving Season in Review**



**Department of Transportation & Environmental Services
Office of Environmental Quality
November 19, 2009**

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1.0 EXECUTIVE SUMMARY

The City of Alexandria issued a Special Use Permit (SUP) to the Virginia Paving Company (VAP) in November of 2006. The SUP amended the hours that vehicles could enter and exit the facility and was issued with a total of 78 conditions to address concerns from the City of Alexandria and the community. Each condition was implemented to improve operational conditions at the facility, to enhance environmental protection, and to provide the City with the authority to enforce compliance with those conditions. The SUP is also a testament to the dialogue established among the City, the community and the Virginia Paving Company. This document provides a review of the 2009 paving season.

The purpose of this report is to provide summary of operations, activities and issues related to Virginia Paving through end of the paving season. This year was another year full of activities that included completion of many of the scheduled projects and implementation of several Best Management Practices. These major activities are listed below:

- City Council passed a resolution to continue the VA Paving Community Liaison Committee on May 26, 2009. VAP Community Liaison Committee held meetings on February 11, 2009 and June 10, 2009.
- VA Paving has revised its 24-hour complaint hotline to incorporate the valuable input provided by the Committee. The complaint hotline is now manned 24/7. The VA Paving 24-hour complaint hotline number remains the same (703) 906-9918.
- Results of the most recent emissions testing (Stack testing) that were conducted in Fall 2008 on both asphalt drum dryer stacks have been finalized. Based on the results of this stack test, VADEQ has issued a draft permit with modifications that includes permit to operate the drum dryer and hot oil heaters using natural gas as fuel in addition to the existing fuel source. Other changes included in this permit are revision to production limits to make them consistent with City's SUP, and updating of list of all plant equipment. VDEQ is inviting comments of this permit through December 10, 2009. VDEQ is also holding a public hearing on December 10, 2009 at Samuel Tucker elementary School to solicit public comments on this draft permit. A copy of the VDEQ's public notice inviting comments, draft permit, (appendix 1) and City of Alexandria draft comments on this permit are attached. (appendix 2)
- The City conducted multi-departmental onsite inspections on June 2, 2009. (appendix 3) Inspection of the storm water management facility was performed April 30, 2009. (appendix 3)
- VADEQ performed a comprehensive air and facility inspection on April 21, 2009. (appendix 4)
- VAP operated in a manner that was satisfactory to the guidelines established in the SUP for this Paving season. However, VA Paving and the City of Alexandria did receive a limited number of complaints during this period. Complaints were received regarding fifteen separate episodes. All of the complaints were investigated by VA Paving and the City Staff.

- City Staff routinely monitored nighttime operations at Virginia Paving this paving season.
- Virginia Paving purchased and began operating a much smaller fuel efficient locomotive on June 19, 2009. This should eliminate air and noise complaints for many of the residents in the Cameron Station and Summer's Grove areas.
- The City continues to monitor VA Paving's operation and evaluate them against SUP production caps and other limits on a routine basis, as well as, respond to odor complaint in a timely manner.
- The City continues to operate an ambient air monitoring station for particulate matter at the Armistead Boothe Park in Cameron Station.
- The City of Alexandria's Office of Environmental Quality has recently changed its number. The general phone number during normal business hours has changed to (703) 746-4065. The Office of Environmental Quality's contact person for Virginia Paving, Julius Holmes has a new number (703)746-4069.
- The following table provides a summary of asphalt production in 2009:

Total Annual Production Limit = 850,000 tons	2009 Total Production = 232,805 tons *as of November 11, 2009
Night Annual Production Limit = 275,000 tons	2009 Night Production = 8,515 tons *as of November 11, 2009
Permitted Number of Nights = 110	2009 Number of Night Shifts = 31 *as of November 11, 2009

2.0 SUP SCHEDULED PROJECTS

Projects Completed to Date

Several SUP conditions include specific completion dates for pertinent projects and improvements. Table 2-1 provides a summary of all the projects completed by the end of October. They have been listed by SUP condition for easy reference to the permit issued in November 2006.

TABLE 2-1			
Virginia Paving Company, Alexandria, Virginia			
Special Use Permit Compliance Schedule - Projects Completed by December 2009			
SUP Condition	Project Description	SUP Compliance Date	Completion Date
6	Maintain records low-odor additive use	Ongoing	In Compliance
8	Maintain records for recycled oil specifications	Ongoing	In Compliance
9	Maintain records for fuel type used on Code Orange and Code Red days	Ongoing	In Compliance
10	Maintain records on No. 2 oil type and sulfur content	Ongoing	In Compliance
11	Plant 1 – Blue Smoke Control	12/31/2006	02/28/2007

TABLE 2-1
Virginia Paving Company, Alexandria, Virginia
Special Use Permit Compliance Schedule - Projects Completed by December 2009

SUP Condition	Project Description	SUP Compliance Date	Completion Date
11	Plant 2 – Fugitive Emission Control System	07/30/2007	07/24/2007
12	Plant 1 – Low NOx Burner	12/31/2007	Installed 4/2007 VADEQ Permit Pending
12	Plant 2 – Low NOx Burner	10/30/2006	03/14/2005
13	Asphalt Storage Tank – Vent Condensers	09/30/2006	08/17/2006
14	Plant 1 Asphalt Conveyors and Loadout – Fugitive Emissions Capture & Control	09/30/2007	08/24/2007
14	Plant 2 Asphalt Conveyors and Loadout – Fugitive Emissions Capture & Control	06/30/2008	06/28/2008
15	Plant 1 - Baghouse Visible Emissions Test	Once per month	In Compliance
15	Plant 2 - Baghouse Visible Emissions Test	Once per month	In Compliance
16	First half of On-Site Trucks & Diesel Engines – 90% Efficient Particle Traps	10/31/2006	09/30/2006
16	Second Half of On-Site Trucks & Diesel Engines – 90% Efficient Particle Traps	12/31/2006	12/22/2006
16	One-Third of VA Paving Dump Trucks – Replace Trucks	12/31/07	12/31/07
16	One-Third of VA Paving Dump Trucks – Replace Trucks	12/31/2008	12/31/08
16	One-Third of VA Paving Dump Trucks – Replace Trucks	12/31/09	On Schedule for 12/31/09
17	Plant 1 – Increase Stack Height to 20 m	01/31/2007	12/20/2006
17	Plant 2 – Increase Stack Height to 20 m	01/31/2007	12/22/2006
18	Hot Oil Heater – Increase Stack Ht to 6 m	10/31/2006	01/20/2006
19	RAP Crusher – Water Sprays and Drop Enclosures	12/31/2006	06/25/2005
21	Maintain water spraying and wet vacuuming on paved roads records	Daily	In Compliance
22	Plant 2 Product Shipment (Eastern End of Facility) – Pave Truck Access Area	10/31/2006	01/09/2006
23	All Material Transfer Points – Water Sprays and Enclosures	12/31/2006	12/16/2006

TABLE 2-1
Virginia Paving Company, Alexandria, Virginia
Special Use Permit Compliance Schedule - Projects Completed by December 2009

SUP Condition	Project Description	SUP Compliance Date	Completion Date
24	Submit record of fugitive dust control BMPs	04/30/2007	4/30/2007
24	Submit record of fugitive dust control BMPs	Every 6 months	In Compliance
25	Plant 1 - Stack Tests (PM2.5, PM10, NOx, SO2, CO) - Test Report	08/31/2007 Within 90 days	8/28/07 10/22/07 10/21/08
25	Plant 2 - Stack Tests (PM2.5, PM10, NOx, SO2, CO) - Test Report	08/31/2007 Within 90 days	8/28/07 10/22/07 11/12/08
29	Install Storm water Management Facility	12/31/2006	12/22/2006
30	Storm water BMPs		
	- Execute maintenance agreement with City	Not specified	01/22/2007
	- Secure maintenance contract with SWMF vendor	Not specified	01/25/2007
	- Obtain O&M manual from SWMF vendor	Not specified	12/13/2006
	- Provide maintenance records to City	Once per year	6/04/2009
31	Vegetate buffer between RAP pile and stream	Not Specified	12/22/2006
32	On-Site Stream Bank Stabilization	Not Specified	12/04/2006
37	Maintain Delivery times, locomotive use, unloading operations, RAP crusher operation	Daily	In Compliance
39	All On-Site Trucks & Equipment – Noise Level Sensing Backup Alarms	05/27/2007	06/25/2006
43	Plant 1 Cylinder Exhaust Port – Noise Reducing Muffler	11/30/2006	07/20/2006
43	Plant 2 Cylinder Exhaust Port – Noise Reducing Muffler	11/30/2006	07/20/2006
48	Remove tack deposits, repair pavement	Within 90 days of City notice	In Compliance
51	Replace Locomotive Engine	12/31/09	6/19/2009
52	Report of non-operational air pollution control equipment	Immediately	In Compliance
53	Maintain Plant temperature readings of asphalt mix	Daily	In Compliance
54	Baghouses	Within 24 hours	In Compliance
	- Report of failures and pressure drops - Notify City of repairs	Upon completion	
55	Maintain all records for 5 years	Daily	In Compliance

TABLE 2-1			
Virginia Paving Company, Alexandria, Virginia			
Special Use Permit Compliance Schedule - Projects Completed by December 2009			
SUP Condition	Project Description	SUP Compliance Date	Completion Date
56	Provide copies of all correspondence with Virginia DEQ	Not specified	In Compliance
58	Submit monthly report of production data	Within 2 weeks of month end	In Compliance
59	All compliance records - Before completion of all SUP projects	Starting 3/31/2007 Once per quarter - within 30 days after quarter end 12/31/2007	Reports submitted: April 30, 2009 July 24, 2009
60	Facility Inspection - First two years of SUP approval	Once per 6 months – starting 11/28/06	Inspections performed June 2, 2009
63	Hold community meetings, i.e., Community Open House	Twice per year - before 06/30 and 12/31 of each year	June 20, 2009 October 24, 2009
64	Provide and implement a comprehensive landscape plan	Not specified	September 2007
73	Remove parking area from City ROW, or apply for encroachment or vacation	Not specified	On schedule
76	Establish a Virginia Paving Liaison Committee	Not specified	Meetings held February 18, 2009 June 10, 2009

Additional Information on Key Completed Projects

Blue Smoke Control for Silo, Load-out Area, and Conveyors

Plant 1

Blue smoke refers to the color of smoke when asphalt is produced. The blue color results from burning silica present in feed materials, such as, sand and rocks. As hot asphalt, at approximately at 300-350 degrees Fahrenheit, is moved on conveyors from the production area to the storage silos, to the delivery trucks, it releases blue fugitive emissions, i.e., blue smoke. VAP completed the installation of the blue smoke control technology for the Plant 1 silo tops in February 2007. In August of 2007, VAP completed the enclosing and venting of the Plant 1 load-out area. This improvement facilitates further reduction of fugitive emissions. As asphalt drops onto the delivery trucks, any blue smoke is potentially vented to the Blue Smoke Control. In the current year, this process has been evaluated and many adjustments have been made to fine tune the collection of the blue smoke. One major adaptation is the daily monitoring of the magnehlic gauges that provide the inspection team a snapshot of the system's overall performance.

Plant 2

VAP completed the second phase of Blue Smoke Control Technology at the facility, the enclosure and venting of Plant 2 silo tops, in July 2007. The final phase of the blue smoke control technology consists of enclosing and venting the Plant 2 load-out area to the collecting unit. This improvement has enabled further capture of odors generated when hot mix asphalt falls from Plant 2 silos onto the bed of the delivery trucks. This project was completed on schedule on June 28, 2008 and the city received a confirmation letter shortly afterwards. It can be viewed in appendix 2. This Blue Smoke Control is manufactured and serviced by the same company that developed the system for Plant #1. Plant #2 is a much smaller plant and the Blue Smoke control system is simply a smaller version for the smaller plant. The operation checks and filter maintenance for this system are identical to plant #1.

Storm Water Management Facility

VAP installed two storm water management facilities (SWMFs) in December 2006 to provide treatment for storm water runoff leaving the VAP facility. The selected passive Best Management Practices located entirely underground and configured for convenient inspection and maintenance. Routine inspection of the system and auxiliary equipment are a part of the Virginia Paving's Storm Water Pollution Prevention Program. Storm water BMP Inspection for both units occurred on April 30, 2009. Inspection consisted of the inspection of existing cartridges and perlite media, and checking sediment build up within the vaults.

A canopy was erected over the equipment fueling station near the facility's office with a bin constructed within the canopy to keep residual spillage at the fuel dispensers confined within the area, and precipitation runoff out. Additional measures, such as, a maintenance agreement has been executed with the City of Alexandria.

The storm filter water maintenance vender provides maintenance and certifies the adequate operation of the storm water filters. VAP maintains a record of operating personnel training on the SWMF; and an O&M Manual is onsite as part of the Storm Water Pollution Prevention Plan (SWPPP). Records of inspections can additionally be found at the facility. Documentation of the most recent storm water maintenance can be found in Appendix 5.

Landscape Plan

The Virginia Paving's landscape plan was finalized and approved by the City of Alexandria. Installation of landscapes commenced on May 7, 2007. During Phase 1, VAP completed plantings located on the west side of the property and the riparian zone buffer restoration. This area, set between VAP and Backlick Run, was engineered for both soil stability and ecological restoration. It serves as a complement to the storm water runoff treatment system, and it provides a natural bio-filter, protecting Backlick Runs

aquatic environment from sedimentation, runoff, and erosion. Phase 1 plantings included a large stand of evergreens which was installed on the adjacent property at Ben Brenman Park to provide enhanced esthetics. Phase 2 plantings are situated on the southwest side of the property along the railroad. This serves as a vegetative buffer for adjacent communities. The remaining Phase 3 plantings will be placed toward the west portion of the property. These landscape plans will help to screen and buffer VAP facility from Van Dorn Street's perspective. Installation of the final phase of the landscapes has been approved by Planning and Zoning to modify the original plan. The final phase as proposed near Van Dorn Street would require the removal of existing vegetation. The modification will keep much of original growth and prevent erosion of the hillside and allow Virginia Paving to improve the area with natural foliage. The final phase of the landscape plan has been approved and awaiting the fall pruning and planting season.

FCC Environmental Oil Recycling Plant

In 2009, FCC Environmental (FCC) continued to take initiatives to improve its recycled oil operation on VAP's property. Specifically, FCC implemented a new vibrating screen, additional controls on the bio-filter area, including venting enclosure through two carbon filtration systems. Additionally, FCC continues to clean all used oil tanks using an innovative high pressure, low-temperature method. FCC Environmental has consistently shared with the City its monthly readings of volatile organic compounds (VOCs) in areas around its operations and exiting the carbon filtration system. FCC Environmental, although not onsite 24 hours a day has provided a contact number onsite to respond to complaints with in their operation.

Remaining Projects to Complete

The remaining capital improvements projects ear marked for this facility are the replacement of the remaining one-thirds of the diesel truck fleet. The truck replacement will continue until December 31, 2009.

3.0 ASHALT PRODUCTION

Following table lists production details at this facility throughout this year from January 1, 2009 to November 11, 2009:

Table 2-2 Summary of Asphalt Production in 2009					
Month	Production (tons)	Night Production (tons) **	Number of nights	Quarterly Production (tons)	Quarterly Number of Nights
January	3,119	0	0	25,639	0
February	14,639	0	0		
March	7,881	0	0		
April	26,955	1,327	3	85,329	8
May	33,672	5,285	5		
June	24,702	0	0		
July	26,883	0	0	82,743	6
August	31,900	0	0		
September	23,960	192	6		
October	29,036	1,711	17	39,094	17
November	10,058	0	0		
December	0	0	0		
Total Actual*	232,805	8,515	31		
Permitted	850,000	275,000	110		

* The underlying data monitored by the City for SUP compliance was reviewed and found to be correct.

** - Night Production is based on any work conducted from 8 PM to 5 AM.

4.0 COMMUNITY ISSUES

- **The VA Paving Liaison Committee:** The VA Paving Liaison Committee held public meetings on February 18, 2009 and June 10, 2009. Copies of the Agenda, minutes and staff reports at these meetings are posted on the City's web site.
- The 24-hour VA Paving Complaint Hotline received complaints regarding fifteen episodes during this time period. The City received via email and/or telephone notification of these during this time period. All complaints originated in the Cameron Station area. City staff investigations were conducted within hours after notification was received via email/or telephone calls.
- These reported episodes and city's follow-up is summarized below:

Episode # 1: This complaint was received via phone call at City Hall at 8:03 on January 23, 2009 after a call to the VA Paving hotline. City staff immediately made contact with VA Paving to resolve this issue and proceeded to the plant. After notification from the plant that operation had not begun, Mr. Holmes called the complainant to get details on the nature of the complaint. Complainant was not sure of the odor and a complete survey of the area was completed. The City staff gathered information on wind direction relative to the place odors were detected. This complaint should not be verified at this time.

Episode # 2: A complaint was received via telephone to Office of Environmental Quality concerning asphalt odors in the Cameron Station area on the morning of April 17, 2009 at 6:30 AM. The hotline was not used to generate a rapid response to this issue. A follow up inspection was performed and the complainant was not interviewed. Messages were left for the complainant but no response was received from the complainant. This complaint could not be verified.

Episode # 3: A complaint was received via telephone to Office of Environmental Quality concerning asphalt odors in the Cameron Station area on the morning of April 23, 2009 at 7:15 AM. This complaint could not be verified. The hotline was not used to generate a rapid response to this issue. A follow up inspection was performed and the complainant was interviewed.

Episode # 4: A complaint was received via telephone to Office of Environmental Quality concerning asphalt odors in the Cameron Station area on the morning of May 8, 2009 at 9:15 AM. There were a total of two complaints for this event. This complaint could not be verified. The hotline was not used to generate a rapid response to this issue. A follow up inspection was performed and the complainant was interviewed.

Episode # 5: Several complainants were received via hotline, email, Virginia Paving hotline. There were a total of four complaints for this event. On the morning of May 13, 2009 at 8:00 AM, several complaints were received by Office of Environmental Quality concerning asphalt odors in the Cameron Station area. Our office as well as Virginia Paving investigated this complaint the previous night. The Virginia paving hotline was notified at 10:47 PM on May 12, 2009. The Fire Department was dispatched to the area as a precaution. City staff and Virginia Paving personnel arrived after receiving the call via the hotline and responded within minutes of the call. Trace amounts of odor were noticed in the area approx. one to two seconds. Street paving project was also under way on I-95 near Cameron Station area.

Episode # 6: Two complaints were received via email to Office of Environmental Quality as well as the Virginia paving hotline concerning asphalt odors in the Cameron Station area on the morning of May 19, 2009. This complainant references the smell of asphalt in the area between 5:30 AM and 7:15 AM the evening before. This complaint was received and was investigated by city staff and well as Virginia Paving personnel. The operations did not begin until about one 1.5 hours after the odor complaint was received and could not be linked to Virginia Paving. An additional complaint was received via the Virginia Paving hotline on the morning of May 19, 2009. This complaint was again investigated by city staff and Virginia Paving personnel. City staff reported that they smelled a slight odor that may have been asphalt but it dissipated very quickly.

Episode # 7: A complaint was received via the Virginia paving hotline concerning asphalt odors in the Cameron Station area on the night of May 19, 2009 at 11:49 PM. This complaint was received and was investigated by city staff and well as Virginia Paving personnel. City staff indicated no odors during the time they spent monitoring this area. City staff did mention smelling a slight odor when in route at the intersection of Harold and Cameron St. near the school. City staff and Virginia Paving personnel

returned to this area and remained at this location until 1:17AM. No odors were detected by the City inspector or Virginia Paving Personnel at that time.

Episode # 8: Odor complaint: A complaint was received via the Virginia paving hotline concerning asphalt odors in the Cameron Station area on the morning of June 29, 2009 at 11:35 AM. This complaint was received and was investigated by Virginia Paving personnel. City staff phoned in the complaint of asphalt odors while operating the Cameron Station monitoring site. City staff performed a follow up inspection immediately after the call to the hotline. The issue was identified and corrected with the addition of Ecosorb into the tankers of asphalt cement.

Episode # 9: Odor complaint: A complaint was received via the Virginia paving hotline concerning asphalt odors in the Cameron Station area on the night of July 6, 2009. This complainant references the smell of asphalt in the area at 8:56 PM. This complaint was also received and was investigated by city staff. The Virginia Paving was not in production or loading out during this time. This complaint was not verified at the time of the investigation.

Episode # 10: Odor complaint: A complaint was received via telephone call to the Office of Environmental Quality concerning asphalt odors in the Cameron Station area on the morning of August 4, 2009 at 9:22 AM. The hotline was not used to log this issue. A follow up inspection was preformed. This complaint could not be verified at this time.

Episode # 11: Odor complaint: A complaint was received via the Virginia paving hotline concerning asphalt odors in the Cameron Station area on the morning of September 29, 2009. This complainant reported the smell of asphalt in the area at 8:16 AM. This complaint was also received and was investigated by city staff. Julius Holmes reported slight hint of asphalt odors but not sustained. This complaint was verified.

Episode # 12: Noise complaint: A complaint was received via the Virginia paving hotline concerning noise in the Summers Grove area on the Morning of October 8, 2009. This complainant reported the sound of tailgate banging on top of the front rap pile at 6:45 AM. This complaint was also received and was investigated by city staff. This complaint was verified by VAP and the city personnel. Drivers were instructed to use caution in the early morning when utilizing the front rap pile.

Episode # 13: Odor complaint: A complaint was received via the Virginia paving hotline concerning asphalt odors in the Cameron Station area on the night of October 20, 2009. This complainant references the smell of asphalt in the area at 8:54 AM. The Virginia Paving was not in production or loading out during this time. This complaint could not be linked to Virginia Paving.

Episode # 14: Odor complaint: A complaint was received via email to the Office of Environmental Quality concerning asphalt odors in the Cameron Station area on the morning of October 21, 2009. This complainant referred to the smell of asphalt in the area at 8:00 AM on several mornings. This complaint was also received and was investigated by city staff. This complaint could not be linked to Virginia Paving.

Episode # 15: Odor complaint: A complaint was received via the Virginia paving hotline concerning asphalt odors in the Cameron Station area on the morning of November 5, 2009. This complainant reported the smell of asphalt in the area at 8:19 AM. This complaint was also received and was investigated by city staff. City staff and Virginia Paving personnel monitored this area and other locations around the school for an hour taking PID readings. No odors were detected as a result of this investigation.

The City requests that all complaints be called in immediately to the VA Paving 24-hour Hotline which can then be followed with calls to the City Nuisance Abatement hotline or Julius Holmes (City staff assigned to VA Paving). It is extremely difficult to investigate and validate complaints too long after the fact. Please share this information with members of the community so that complaints and concerns can be better investigated and resolved. The VA Paving 24-hour complaint hotline number remains the same (703) 906-9918. The City Nuisance Abatement hotline is (703) 836-0041 and Mr. Holmes' contract information is: (703) 746-4069 office and email address: Julius.holmes@alexandriava.gov

5.0 NEW PROPOSED STATE OPERATING PERMIT

Virginia paving applied for a new state operating permit in 2007. This new permit was to (1) resolve an Notice of Violation issued from VADEQ (2) modify the type of fuel that could be utilized at the plant and include natural gas as an approved fuel source for both drum dryers and asphalt heaters (3) update the equipment that has been replaced such as, the Low NOx Burner and the Hot Oil Heating system. VDEQ has issued a draft State Operating Permit based on the results of the most recent emissions testing (Stack testing) that were conducted in Fall 2008 on both asphalt drum dryer stacks. This draft permit allows VA Paving to operate the drum dryer and hot oil heaters using natural gas as fuel in addition to the existing fuel source. Other changes include production limits and emission limits. VDEQ is inviting comments of this permit through December 10, 2009. VDEQ is also holding a public hearing on December 10, 2009 at Samuel Tucker elementary School to solicit public comments on this draft permit. A copy of the VDEQ's public notice inviting comments, draft permit, (appendix 1) and City of Alexandria draft comments on this permit are attached. (Appendix 2)

Please note that public comments period ends December 10, 2009.

VADEQ has scheduled an information briefing and public hearing at: Samuel W. Tucker Elementary School, located at 435 Ferdinand Day Drive in the City of Alexandria on December 10, 2009, from 6:00 p.m. to 8:30 p.m.

VDEQ contact for providing comments: Mr. Ali Khalilzadeh, Department of Environmental Quality; 13901 Crown Court, Woodbridge, Virginia 22193; Phone: (703) 583-3839; E-mail: alireza.khalilzadeh@deq.virginia.gov; Fax: (703) 583-3821.

6.0 AMBIENT AIR QUALITY MONITORING

The City of Alexandria began routinely monitoring ambient air for particulate matter in 2006 at a new monitoring station located at Armistead Boothe Park, near the Samuel Tucker Elementary School in Cameron Station. Monitoring is being conducted to measure the ambient air concentrations of particulate matter less than 10 microns in diameter (PM10) in the surrounding Cameron Station monitor. This section of the report presents brief background information for this project, the analytical protocols used, and the monitoring results. Lastly, this report discusses the relevant findings.

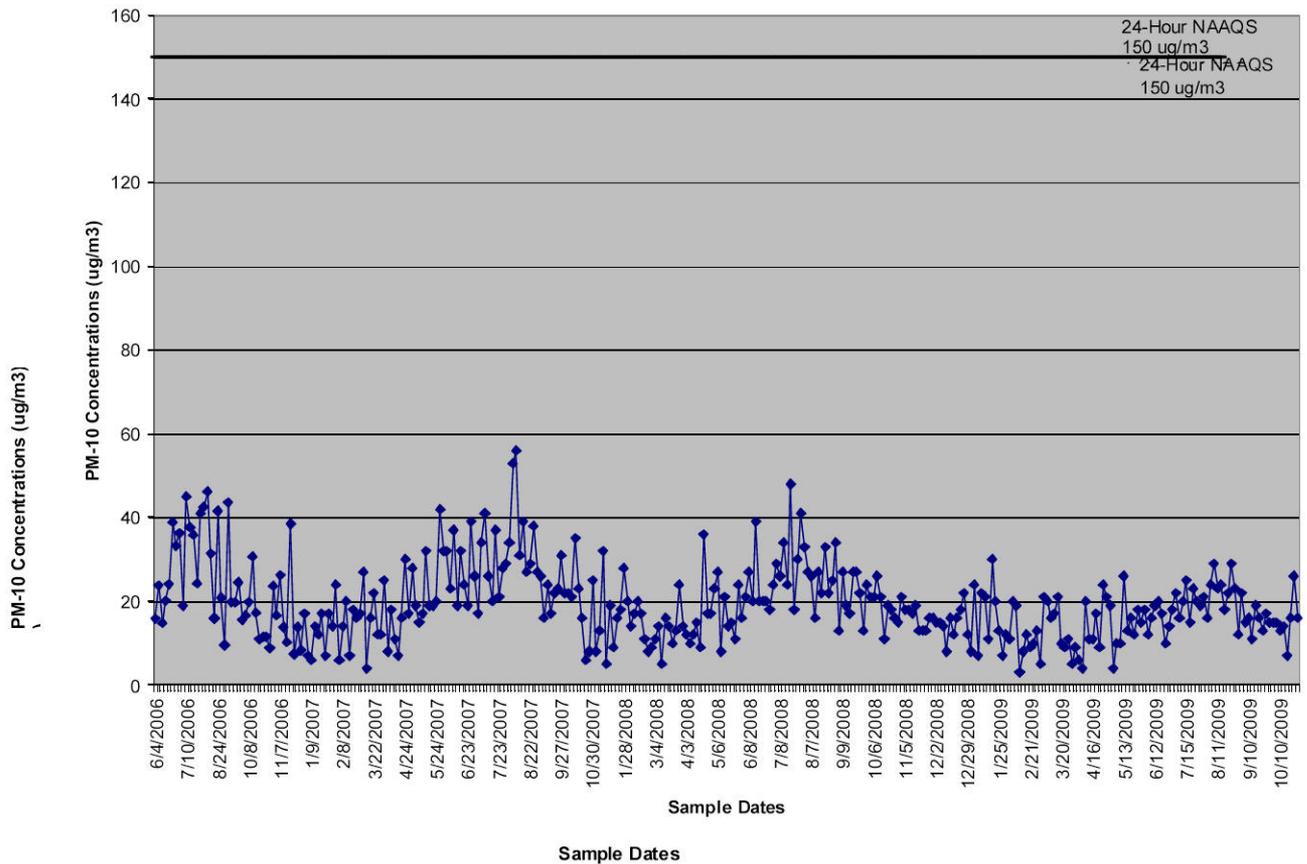
Background

Residents near the VAP facility have expressed concerns about the health effects from potential exposure to particulate matter in their community. Specifically, the residents have raised concerns about emissions generated at the Virginia Paving hot mix asphalt facility. This facility is located near residential areas at Cameron Station and Summer's Grove.

To address these concerns, the City conducted a short-term monitoring study in August of 2004. Two monitors were used for the study, one located at the Armistead Boothe Park and the other at the Ben Brenman Park. The study was designed to monitor PM-10 levels on days when its levels were anticipated to be the highest, based on engineering best practice analysis of weather conditions and predicted wind direction. Monitoring on days when rainfall was predicted was avoided. The results from this short monitoring period in 2004 met the national ambient air quality. However, because they were higher than expected, the City installed a new long term monitoring station to measure PM-10 at Armistead Boothe Park, near the Samuel Tucker Elementary School. This brief report presents the data collected at this newly established monitoring station since its inception, i.e. June 4, 2006.

Monitoring Results

The following graphic summarizes the PM10 monitoring results for the long-term monitoring station located at Boothe Park near the Samuel Tucker School. Monitoring at this location started in June of 2006. The 24-hour average PM10 concentrations are compared to the EPA-specified National Ambient Air Quality Standard (NAAQS) of 150 $\mu\text{g}/\text{m}^3$. A comparison of the monitoring results with the NAAQS shows that the ambient PM10 concentrations at Cameron Station are below the NAAQS, as depicted in the chart below. As expected, the results show considerable day-to-day variability.



**Table 6-1: Summary of PM10 Monitoring Results*
Armistead Boothe Park Station - 2009**

2009 Quarter	Maximum Value ug/m3	Number of Samples	Arithmetic Mean ug/m3
1 st Quarterly Totals	30	30	14.6
2 nd Quarterly Totals	26	30	14.7
3 rd Quarterly Totals	29	26	19.5
4 th Quarterly Totals	26	9	15.2
2009 Annual Totals*	30	95	15.8

*Information contained in this table is the most recently obtained from Virginia Department of Environmental Quality (10/24/09) 4th Quarter not complete

In order to address, concerns regarding PM2.5 emissions, and for demonstrating compliance with NAAQS, SUP condition 28a states that: The City shall continue operating the PM10 monitor at Tucker School until three years of valid data have been collected. Once three years of data is collected, the City shall determine the 98th

percentile of this data, per the NAAQS, and then multiply that value by 75%, to impute a 98th percentile value for PM2.5. The City has completed this analysis based on 36 months of data (appendix 5). Following is the results of this analysis and its comparison with applicable NAAQS:

PM2.5 24-Hour monitoring design value	= 33.9 ug/m3
PM2.5 24-Hour NAAQS	= 35 ug/m3
PM2.5 Annual monitoring design value	= 14.3 ug/m3
PM2.5 Annual NAAQS	= 15 ug/m3

7.0 METEOROLOGICAL STATION

The meteorological station located at the Samuel W. Tucker School is now part of the WeatherBug network. Persons with an internet connection can now obtain local weather information for Alexandria, such as temperature, wind direction and humidity. WeatherBug was developed with the purpose of delivering live local weather conditions, forecasts and life saving severe weather alerts from its exclusive network of WeatherBug Tracking Stations. The internet link to the Samuel Tucker station is <http://weather.weatherbug.com/VA/Alexandria-weather.html?zcode=z5602>