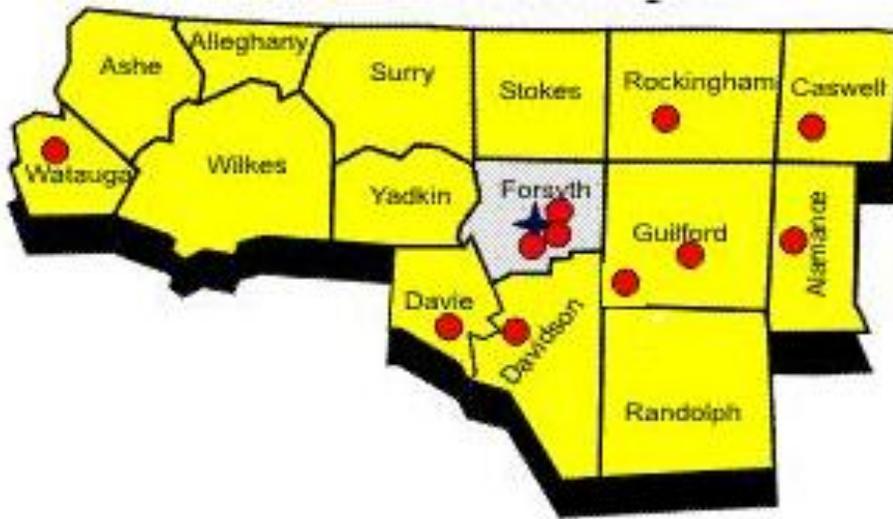


2012 ANNUAL MONITORING NETWORK PLAN FOR THE NORTH CAROLINA DIVISION OF AIR QUALITY

VOLUME 2

SITE DESCRIPTIONS BY DIVISION OF AIR QUALITY REGIONAL OFFICE AND METROPOLITAN STATISTICAL AREA

B. THE WINSTON-SALEM MONITORING REGION



July 2, 2012

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A Division of the North Carolina Department
of Environment and Natural Resources
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B. The Winston-Salem Monitoring Region

The Winston-Salem Monitoring Region of North Carolina, shown in Figure B1, consists of six sections: (1) the Eastern Mountains, (2) the Winston-Salem Metropolitan Statistical Area (MSA) (Davie, Forsyth, Stokes and Yadkin Counties), (3) the Lexington Micropolitan Statistical Area (Davidson County), (4) the Greensboro MSA (Guilford, Randolph, and Rockingham Counties), (5) the Burlington MSA (Alamance County), and (6) Caswell County.

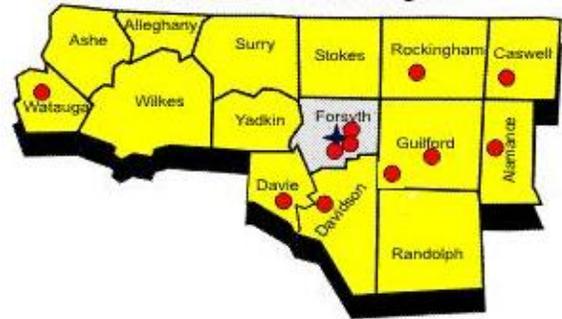


Figure B1. The Winston-Salem Monitoring Region
The red dots show the approximate locations of most of the monitoring sites in this region.

(1) The Eastern Mountains

The Eastern Mountains consists of five counties: Alleghany, Ashe, Watauga, Wilkes, and Surry. There are no major metropolitan areas in this section of the North Carolina Mountains. The Boone Micropolitan Statistical Area is located in Watauga County. The Mount Airy Micropolitan Statistical Area is located in Surry County. The NC-DAQ currently operates one monitoring site in the Eastern Mountains. This site is located at Boone in Watauga County.

At the **Boone** (37-189-0003) site in Watauga County the NC-DAQ operates a one-in-three day fine particle Federal Reference Method (FRM) monitor. Figure B2 through Figure B10 show the site as well as views looking north, northeast, east, southeast, south, southwest, west, and southwest. Table B1 summarizes monitoring information for the site. After the NC-DAQ converts to a wireless polling network, the NC-DAQ may replace the FRM monitor at this site with a Federal Equivalent Method (FEM) monitor.



Figure B2. The Boone Fine Particle Monitoring Site (37-189-0003)



Figure B3. Looking North from the Boone Site



Figure B4. Looking Northeast from the Boone Site



Figure 5. Looking Northwest from the Boone site



Figure B8. Looking East from the Boone Site



Figure B6. Looking West from the Boone Site



Figure B9 Looking Southeast from the Boone Site



Figure B7. Looking Southwest from the Boone Site



Figure B10. Looking South from the Boone Site

Table B1. Site Table for Boone

Site Name:	Boone		AQS Site Identification Number	37-189-0003	
Location:	361 Jefferson Road, Boone, North Carolina				
MSA:	Not in a MSA		MSA #:	0000	
Latitude	36.221944	Longitude	-81.663056	Datum:	WGS84
Elevation	945 meters				
Parameter Name	Method	Method Reference ID	Sample Duration	Sampling Schedule	
PM 2.5 Local Conditions	R & P Model 2025 PM2.5 Sequential w/WINS – Gravimetric Analysis (118)	RFPS-0498-118	24-Hour	Every Third Day, Year Round	
Date Monitor Established:	PM 2.5 Local Conditions, Primary Monitor			January 1, 1999	
Nearest Road:	Highway 194	Traffic Count:	12,000	Year of Count:	2010

Table B1. Site Table for Boone

Parameter Name	Distance to Road	Direction to Road	Monitor Type	Statement of Purpose	
PM 2.5 Local Conditions	260 meters	East Northeast	SLAMS	Required general background monitor for the mountain area. Compliance w/NAAQS.	
Parameter Name	Monitoring Objective	Scale	Suitable for Comparison to NAAQS	Proposal to Move or Change	
PM 2.5 Local Conditions	Population Exposure General Background	Neighborhood	Yes	None	
Parameter Name	Meets Part 58 Appendix A Requirements	Meets Part 58 Appendix C Requirements	Meets Part 58 Appendix D Requirements	Meets Part 58 Appendix E Requirements	
PM 2.5 Local Conditions	Yes	Yes	Yes	Yes	
Parameter Name	Probe Height (m)	Distance to Support	Distance to Trees	Obstacles	
PM 2.5 Local Conditions	2.4	> 2 meters	>20 meters	None	

In 2010 EPA finalized changes to the expanded **lead monitoring** network established in 2008 to support the lower lead National Ambient Air Quality Standard (NAAQS) of 0.15 micrograms per cubic meter. EPA is focusing monitoring efforts on fence line monitoring located at facilities that emit 0.5 ton or more of lead per year and at urban National Core (NCore) monitoring sites as well as at selected airports. The Eastern Mountains do not have an NCore monitoring site or any permitted facilities emitting 0.5 ton or more per year of lead.¹ Thus, the Eastern Mountains will not be affected by the changes to the lead monitoring network.

Any new **ozone monitoring** requirements also should not impact the Eastern Mountains. This area does not have any MSAs requiring a minimum number of monitors by 40 Code of Federal Regulations (CFR) 58 Appendix D for population exposure monitoring in urban areas and does not have any Class I Areas that would trigger rural-ozone monitoring requirements that might be established by the EPA.

The Eastern Mountains were not affected by the 2010 **nitrogen dioxide monitoring** requirements. The area is too small to require area-wide monitors and does not have any roadways with average annual daily traffic above the threshold for near roadway monitoring. The Eastern Mountains was also not affected by the 2010 **sulfur dioxide monitoring** requirements because there are no large sources of sulfur dioxide emissions located within the county. This area was also not affected by the changes to the **carbon dioxide monitoring** requirements because the population is too small.

(2) The Winston-Salem MSA

The Winston-Salem MSA consists of four counties: Davie, Forsyth, Stokes and Yadkin. The major metropolitan area is Winston-Salem. The NC-DAQ currently operates one monitoring site in the Winston-Salem MSA and the Forsyth County Office of Environmental Assistance and Protection (FCOEP) operates five. These sites are located at Mocksville (Davie County), Clemmons, Union Cross, Hattie Avenue, Shiloh, and Peters Creek in Winston-Salem (Forsyth County). The locations of these

¹ NC-DAQ emission inventory database available from the world wide web at <http://xapps.enr.state.nc.us>.

monitors are shown in Figure B11. The FCOEAP sites and monitors are discussed in Appendix C. Only the one NC-DAQ site is further discussed in this subsection.

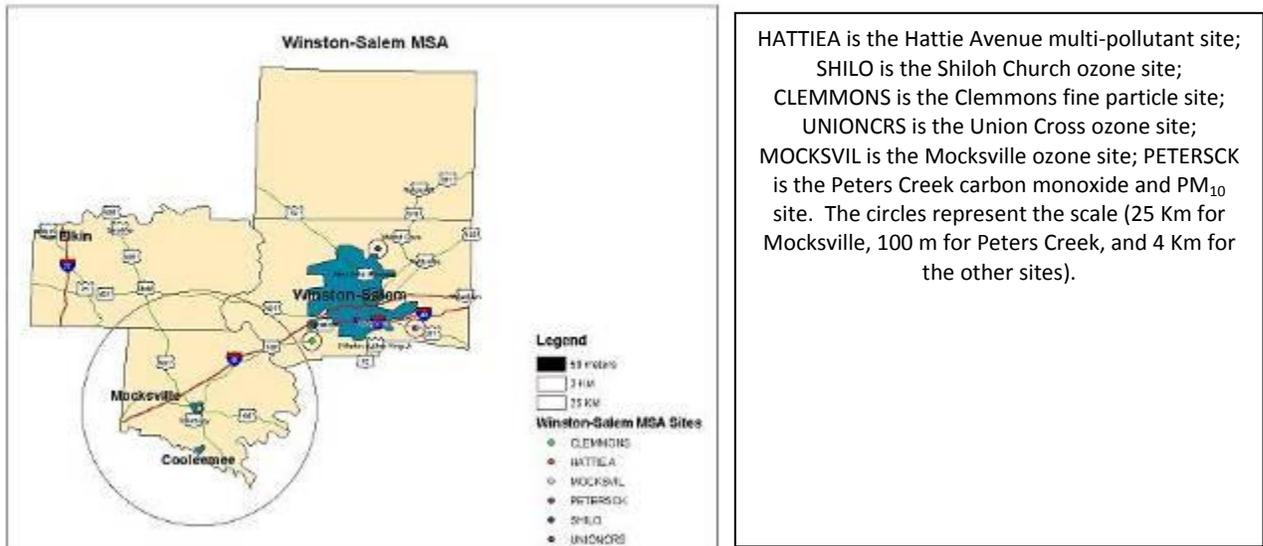


Figure B11. Location of Monitoring Sites in the Winston-Salem MSA

In 2010 the NC-DAQ relocated the seasonal ozone monitor at **Cooleemee** (37-059-0002) to **Mocksville** (37-059-0003). Figure B12 is an aerial view of the Mocksville site. The monitor is located 20 meters from Pine Street and more than 20 meters from the trees to the north, which are approximately 16 meters tall. A small emergency generator is located about 50 meters southeast of the location.

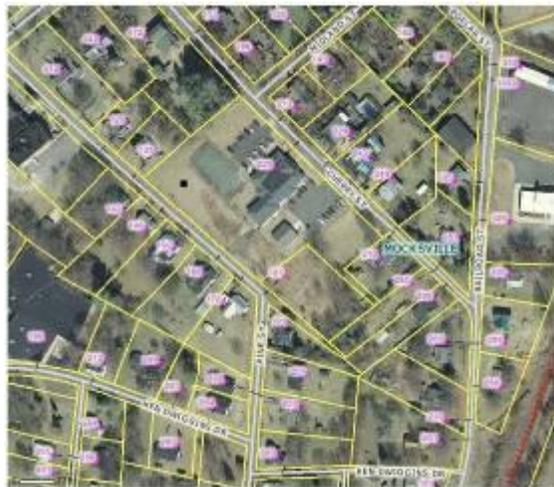


Figure B12. Aerial view of the Mocksville Ozone Monitoring Site (black square)



Figure B13. Mocksville Ozone Monitoring Site (37-059-0003)



Figure B14. Looking North from the Mocksville Site



Figure B17. Looking East from the Mocksville Site



Figure B15. Looking West from the Mocksville Site



Figure B18. Looking Southwest from the Mocksville Site



Figure B16. Looking Northeast from the Mocksville Site



Figure B19. Looking South from the Mocksville Site

A picture of the site as well as views looking north, east, south, and west are provided in Figure B13 through Figure B19. Table B2 summarizes monitoring information for the site. Like the Cooleemee site the purpose of the Mocksville site is to measure ozone transport between the Charlotte MSA and the Winston-Salem MSA. It is the fifth ozone-monitoring site for the MSA.

Table B2. Site Table for Mocksville

Site Name:	Mocksville			AQS Site Identification Number:	37-059-0003
Location:	220 Cherry Street, Mocksville, North Carolina				
CBSA:	Winston-Salem, NC			CBSA #:	49180
Latitude	35.897068	Longitude	-80.557278	Datum:	WGS84
Elevation	260 meters				
Parameter Name	Method	Method Reference ID	Sample Duration	Sampling Schedule	
Ozone	Instrumental With Ultra Violet Photometry (047)	EQOA-0880-047	1-Hour	April 1 to October 31	
Date Monitor Established:	Ozone			March 30, 2010	
Nearest Road:	Pine Street	Traffic Count:	200	Year of Count:	Estimated
Parameter Name	Distance to Road	Direction to Road	Monitor Type	Statement of Purpose	
Ozone	20 meters	Southwest	SLAMS	Upwind site for the Greensboro-High Point MSA. Real-time AQI reporting and forecasting. Compliance w/NAAQS.	
Parameter Name	Monitoring Objective	Scale	Suitable for Comparison to NAAQS	Proposal to Move or Change	
Ozone	General Background Population Exposure Regional Transport	Urban	Yes	None	
Parameter Name	Meets Part 58 Appendix A Requirements	Meets Part 58 Appendix C Requirements	Meets Part 58 Appendix D Requirements	Meets Part 58 Appendix E Requirements	
Ozone	Yes	Yes	Yes	Yes	
Parameter Name	Probe Height (m)	Distance to Support	Distance to Trees	Obstacles	
Ozone	3	0.5 meters	>20 meters	None	

The Winston-Salem MSA was not affected by the 2010 changes to the **lead monitoring** requirements. The Winston-Salem MSA does not have any NCore monitoring sites and does not have any permitted facilities emitting more than 0.5 ton per year of lead.

The Winston-Salem MSA will not be affected by any changes to the **ozone monitoring** requirements. This MSA already exceeds the minimum number of monitors required by 40 CFR 58 Appendix D for population exposure monitoring in urban areas. This area will also not be affected by rural ozone monitoring requirements. It does not have any Class I Areas.

The Winston-Salem MSA will not be affected by the 2010 **nitrogen dioxide monitoring** requirements until sometime after January 1, 2017. Its population may exceed the 500,000 threshold resulting in a need for near roadway monitoring if the EPA decides to continue requiring near roadway monitoring for MSAs with populations between 0.5 and 1 million. Currently, it is too small to require area-wide monitors and does not have any roadways with average annual daily traffic above the threshold for near roadway monitoring. The existing nitrogen dioxide monitor at Hattie Avenue may be designated as on the monitors required by the Administrator.

The Winston-Salem MSA will be affected by the 2010 **sulfur dioxide monitoring** requirements because it is required to have a population weighted emission index monitor. However, the existing sulfur dioxide

monitor at the Hattie Avenue site will meet this monitoring requirement. This area will not be affected by the changes to the **carbon dioxide monitoring** requirements because the population is too small.

(3) The Thomasville-Lexington Micropolitan Statistical Area

The Thomasville-Lexington Micropolitan Statistical Area consists of Davidson County. There are no metropolitan statistical areas in this county. Thomasville and Lexington are the major urban areas. The NC-DAQ currently operates one monitoring site in this area located in downtown Lexington at the Water Tower. The location of this monitoring site is shown in Figure B20.



Figure B20. Location of the Lexington Monitoring Site

A is the Lexington fine particle site. The circle approximates the neighborhood scale of representation for this monitor (0.5 to 4 Km).



Figure B21. Lexington Water Tower Fine Particle Monitoring Site (37-057-0002)

At the **Lexington (37-057-0002)** site the NC-DAQ operates a one-in-three day fine particle FRM monitor, one-in-six day MetOne Super SASS and URG 3000N speciation fine particle monitors, and a continuous fine particle monitor. A picture of the site as well as views looking north, east, south, and west are provided in Figure B21 through Figure B25. Table B3 summarizes monitoring information for the site.



Figure B22. Looking North from Lexington Site



Figure B23. Looking East from Lexington Site



Figure B24. Looking West from Lexington Site



Figure B25. Looking South from Lexington Site

Table B3. Site Table for Lexington

Site Name:	Lexington		AQS Site Identification Number	37-057-0002	
Location:	938 South Salisbury Street, Lexington, North Carolina				
MSA:	Not in a MSA		MSA #:	0000	
Latitude	35.814444	Longitude	-80.262500	Datum:	WGS84
Elevation	241 meters				
Parameter Name	Method		Method Reference ID	Sample Duration	Sampling Schedule
PM 2.5 Local Conditions	R & P Model 2025 PM2.5 Sequential w/WINS – Gravimetric Analysis (118)		RFPS-0498-118	24-Hour	Every Third Day, Year Round
PM2.5 Raw Data/ Acceptable PM2.5 AQI & Speciation	PM2.5 TEOM w/SCC w/No Correction Factor (701)/(702) PM2.5 TEOM w/SCC w/Correction Factor		Not a Reference Method	1-Hour	Year Round
Acceptable PM2.5 AQI & Speciation	Met One SASS Teflon – Gravimetric Analysis (810)		Not a Reference Method	24-Hour	Every Sixth Day Year Round
EC/OC CSN_Rev Unadjusted PM2.5 LC TOT	URG 3000N w/Pall Quartz filter and Cyclone Inlet		Not a Reference Method	24-Hour	Every Sixth Day Year Round
Date Monitor Established:	PM 2.5 Local Conditions, Primary Monitor				January 1, 1999
	PM2.5 Raw Data/ Acceptable PM2.5 AQI & Speciation (TEOM)				June 29, 2004
	Acceptable PM2.5 AQI & Speciation (Super SASS)				January 16, 2004
	EC/OC CSN_Rev Unadjusted PM2.5 LC TOT (URG 3000N)				October 1, 2009
Nearest Road:	South Salisbury Street		Traffic Count:	1000	Year of Count: Estimated
Parameter Name	Distance to Road	Direction to Road	Monitor Type	Statement of Purpose	
PM 2.5 Local Conditions	30 meters	East	SLAMS	Required monitor. Compliance w/NAAQS	
PM2.5 Raw Data/ Acceptable PM2.5 AQI & Speciation	30 meters	East	SLAMS	Required monitor. Real-time AQI reporting & forecasting.	
Acceptable PM2.5 AQI & Speciation	30 meters	East	Supplemental Speciation	Required monitor.	
EC/OC CSN_Rev Unadjusted PM2.5 LC TOT	30 meters	East	Supplemental Speciation	Required monitor.	
Parameter Name	Monitoring Objective		Scale	Suitable for Comparison to NAAQS	Proposal to Move or Change
PM 2.5 Local Conditions	Population Exposure		Neighborhood	Yes	None
PM2.5 Raw Data/ Acceptable PM2.5	Population Exposure		Neighborhood	No	None

Table B3. Site Table for Lexington

AQI & Speciation				
Acceptable PM2.5 AQI & Speciation	Population Exposure	Neighborhood	No	None
EC/OC CSN_Rev Unadjusted PM2.5 LC TOT	Population Exposure	Neighborhood	No	None
Parameter Name	Meets Part 58 Appendix A Requirements	Meets Part 58 Appendix C Requirements	Meets Part 58 Appendix D Requirements	Meets Part 58 Appendix E Requirements
PM 2.5 Local Conditions	Yes	Yes	Yes	Yes
PM2.5 Raw Data/ Acceptable PM2.5 AQI & Speciation	Yes	No not required to	Yes	Yes
Acceptable PM2.5 AQI & Speciation	Yes	No not required to	Yes	Yes
EC/OC CSN_Rev Unadjusted PM2.5 LC TOT	Yes	No not required to	Yes	Yes
Parameter Name	Probe Height (m)	Distance to Support	Distance to Trees	Obstacles
PM 2.5 Local Conditions	2.4	> 2 meters	>20 meters	None
PM2.5 Raw Data/ Acceptable PM2.5 AQI & Speciation	2.4	> 2 meters	>20 meters	None
Acceptable PM2.5 AQI & Speciation	2.4	> 2 meters	>20 meters	None
EC/OC CSN_Rev Unadjusted PM2.5 LC TOT	2.4	> 2 meters	>20 meters	None

The Thomasville-Lexington Micropolitan Statistical Area was not affected by the 2010 changes to the **lead monitoring** regulations. It does not have any NCore monitoring sites and it does not have any permitted facilities located within its bounds that emit 0.5 tons or more per year of lead.

The Thomasville-Lexington Micropolitan Statistical Area will also not be affected by any new **ozone monitoring** requirements. This area is not an MSA and is not required by 40 CFR 58 Appendix D to have a minimum number of monitors for population exposure monitoring in urban areas. This area will also not be affected by rural ozone monitoring requirements. It does not have any Class I Areas.

The Thomasville-Lexington Micropolitan Statistical Area is not affected by the 2010 **nitrogen dioxide monitoring** requirements. It is too small to require area-wide monitors and does not have any roadways with average annual daily traffic above the threshold for near roadway monitoring. This area is not affected by the 2010 **sulfur dioxide monitoring** requirements because it does not have any large sulfur dioxide sources within its bounds. This area will also not be affected by the changes to the **carbon dioxide monitoring** requirements because the population is too small.

(4) The Greensboro-High Point MSA

The Greensboro-High Point MSA consists of three counties: Guilford, Randolph, and Rockingham. The major metropolitan areas are the Cities of Greensboro and High Point. The NC-DAQ currently operates three monitoring sites in the Greensboro-High Point MSA. These sites are located at Mendenhall and Colfax (Guilford County), and Bethany (Rockingham County). The locations of these monitors are shown in Figure B26.

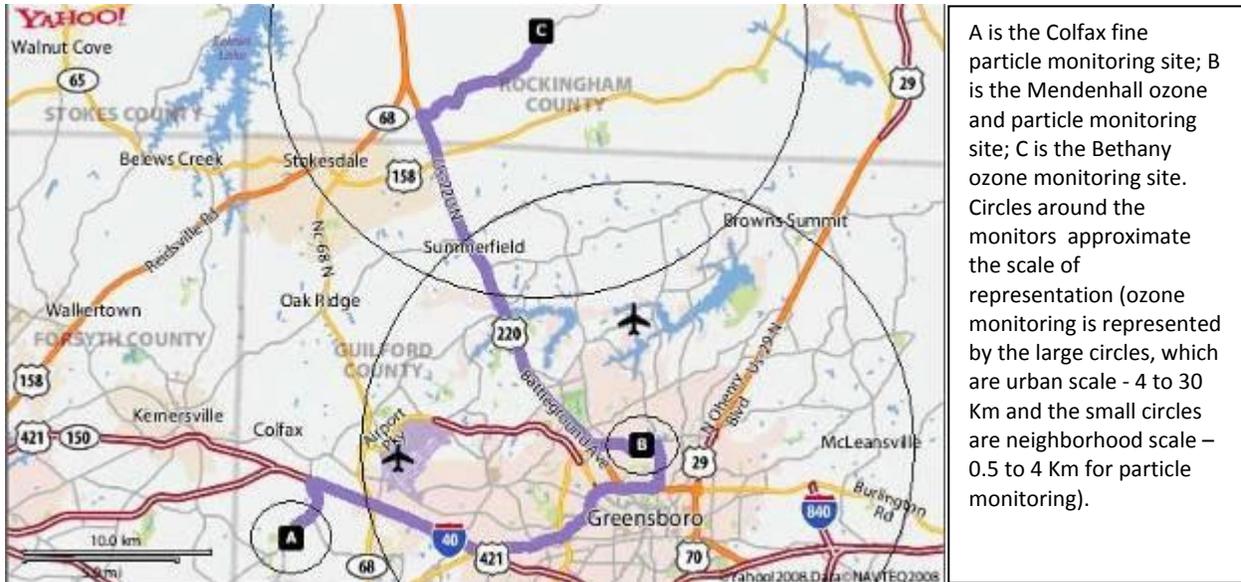


Figure B26. Location of Monitors Located in the Greensboro MSA

At the **Colfax** (37-081-0014) site the NC-DAQ operates a one-in-three-day fine particle monitor. A picture of the site as well as views looking north, northeast, east, south, southwest, west, and northwest are provided in Figure B27 through Figure B32. Table B3 summarizes monitoring information for the site. This site was established in 2007 as the second fine particle monitoring site in the Greensboro-High Point MSA. At that time, the MSA was required to have two fine particle monitors because the design value was greater than 85 % of the NAAQS.



Figure B27. The Colfax Fine Particle Monitoring Site (37-081-0014)



Figure B28. Looking North from the Colfax Site



Figure B29. Looking Northeast from the Colfax Site



Figure B30. Looking Northwest from the Colfax Site



Figure B33. Looking East from the Colfax Site



Figure B31. Looking West from the Colfax Site



Figure B34. Looking South from the Colfax Site



Figure B32. Looking Southwest from the Colfax Site

Table B4. Site Table for Colfax

Site Name:	Colfax	AQS Site Identification Number			37-081-0014
Location:	2127 Sandy Ridge Road, Colfax, North Carolina				
CBSA:	Greensboro-High Point	CBSA #:	24660	Elevation	290 meters
Latitude	36.068660	Longitude	-80.007050	Datum:	WGS84
Parameter Name	Method	Method Reference ID	Sample Duration	Sampling Schedule	
PM 2.5 Local Conditions	R & P Model 2025 PM2.5 Sequential w/WINS – Gravimetric Analysis (118)	RFPS-0498-118	24-Hour	Every Third Day, Year Round	
Wind Speed/Wind Direction	Vector Summation Level 1	Not a Reference Method	1-Hour	Year Round	

Table B4. Site Table for Colfax

Date Monitor Established:	PM 2.5 Local Conditions, Primary Monitor				December 15, 2007
	Wind Speed/Wind Direction				September 10, 2010
Nearest Road:	Sandy Ridge Road	Traffic Count:	9500	Year of Count:	2009
Parameter Name	Distance to Road	Direction to Road	Monitor Type	Statement of Purpose	
PM 2.5 Local Conditions	200 meters	East	SLAMS	Compliance w/NAAQS. AQI Reporting	
Wind Speed/Wind Direction	200 meters	East			
Parameter Name	Monitoring Objective	Scale	Suitable for Comparison to NAAQS	Proposal to Move or Change	
PM 2.5 Local Conditions	Population Exposure	Neighborhood	Yes	None	
Wind Speed/Wind Direction	Population Exposure	Neighborhood	Not Applicable	None	
Parameter Name	Meets Part 58 Appendix A Requirements	Meets Part 58 Appendix C Requirements	Meets Part 58 Appendix D Requirements	Meets Part 58 Appendix E Requirements	
PM 2.5 Local Conditions	Yes	Yes	Yes	Yes	
Wind Speed/Wind Direction	Yes	No requirements	No requirements	Not applicable	
Parameter Name	Probe Height (m)	Distance to Support	Distance to Trees	Obstacles	
PM 2.5 Local Conditions	2.4	> 2 meters	7.62 meters	Tree to North	
Wind Speed/Wind Direction	10	> 2 meters	7.62 meters	Tree to North	

At the **Mendenhall** (37-081-0013) site the NC-DAQ operates a seasonal ozone monitor, a one-in-three day fine particle monitor, a continuous fine particle monitor, and a one-in-six day PM₁₀ monitor. Figure B35 through Figure B43 show the site and views looking north, northeast, east, southeast, south, southwest, west, and northwest. The Mendenhall site is currently the design value ozone monitoring site for the MSA. In 2011, the NC-DAQ reduced the monitoring schedule for the one-in-three day monitor to one-in-six day.



Figure B35. Mendenhall Ozone and Particle Monitoring Site (37-081-0013)



Figure B36. Looking North from the Mendenhall Site



Figure B37. Looking Northeast from the Mendenhall Site



Figure B38. Looking Northwest from the Mendenhall Site



Figure B41. Looking East from the Mendenhall Site



Figure B39. Looking West from the Mendenhall Site



Figure B42. Looking Southeast from the Mendenhall Site



Figure B40. Looking Southwest from the Mendenhall Site



Figure B43. Looking South from the Mendenhall Site

At the **Bethany** (37-157-0099) site the NC-DAQ operates a seasonal ozone monitor, the second required ozone monitoring site for the MSA. The NC-DAQ added a background sulfur dioxide monitor for background PSD modeling to this site January 1, 2011. The monitor will operate for one year out of every three years. It operated in 2011 and is scheduled to operate again in 2014. A picture of the site as well as views looking north, east, south, and west are provided in Figure B44 through Figure B48.



Figure B44. Bethany Ozone and Sulfur Dioxide Monitoring Site (37-157-0099)



Figure B45. Looking North from the Bethany Site



Figure B47. Looking East from the Bethany Site



Figure B46. Looking West from the Bethany Site



Figure B48. Looking South from the Bethany Site

As shown in Figure B49 the site is located near two emission sources: Duke Energy Carolinas, LLC - Rockingham County Combustion Turbine is located about 3 kilometers to the northeast and Transcontinental Gas Pipeline Corporation - Compressor Station 160 is located about 5 kilometers to the north northeast. In 2010 the Duke Energy Carolinas facility emitted 101.8 tons of nitrogen oxides, 5.2 tons of volatile organic compounds (VOC), and 1.4 tons of sulfur dioxide. Transcontinental Gas Pipeline emitted 2,088.7 tons of nitrogen oxides, 201.6 tons of VOC, and 1.2 tons of sulfur dioxide.²



A is the Bethany Ozone Monitoring Site; B is Transcontinental Gas Pipeline Corp. - Compressor Station 160; C is Duke Energy Carolinas, LLC - Rockingham Co. Comb. Turbine

Figure B49. Location of the Bethany Ozone Site in Relation to Nearby Emission Sources

² DAQ Emission Inventory available from the World Wide Web at <http://daq.state.nc.us/monitor/eminv/>.

In 2008 EPA expanded the **lead monitoring** network to support the lower lead NAAQS of 0.15 micrograms per cubic meter. In 2010 EPA focused monitoring efforts on fence line monitoring located at facilities that emit 0.5 or more tons of lead per year and at NCore monitoring sites in urban areas. The Greensboro-High Point MSA will not be required by the revised lead monitoring requirements to do lead monitoring because it does not have an NCore monitoring site and does not have any permitted facilities that emit 0.5 or more tons per year of lead.³

Any new **ozone monitoring** requirements should not result in additional monitoring in the Greensboro-High Point MSA. This MSA already meets the minimum monitoring requirements in 40 CFR 58 Appendix D for population exposure monitoring in urban areas and does not have any Class I Areas.

The 2010 **nitrogen dioxide monitoring** requirements will require additional monitoring by January 1, 2017, in the Greensboro-High Point MSA because its population is over 500,000. The United States Environmental Protection Agency recommends that states choose near road monitoring stations along road segments with the highest average annual daily traffic values adjusted for fleet mix. The segments with the highest average annual daily traffic adjusted for fleet mix are shown in Table B5.

Table B5. Fleet Equivalent Average Annual Daily Traffic for Selected Road Segments in the Greensboro-High Point MSA

STATION	ROUTE	LOCATION	Station	Percent Passenger	2010 AADT	Fleet Equivalent AADT
(B) 3400	I-85	FROM EXIT 131 TO EXIT 132	Extrapolate	85%	106,000	249,100
(C) 697	I-85	FROM EXIT 132 TO EXIT 135	Extrapolate	85%	106,000	249,100
(D) 811	I-85	FROM EXIT 135 TO EXIT 138	Extrapolate	85%	106,000	249,100
(E) 813	I-85	FROM EXIT 138 TO EXIT 140	10MC0001	85%	104,000	244,400
(A) 340	I-85 BUS	FROM EXIT 37 TO EXIT 39	09MC0066	88%	117,000	243,360
(F) 341	I-85 BUS	FROM EXIT 36B TO EXIT 37	09MC0065	90%	118,000	224,200
(G) 508	I-40	FROM EXIT 211 TO EXIT 212	09MC0023	89%	112,000	222,840
(H) 902	I-40	FROM EXIT 206 TO EXIT 208	09MC0022	88%	103,000	214,240

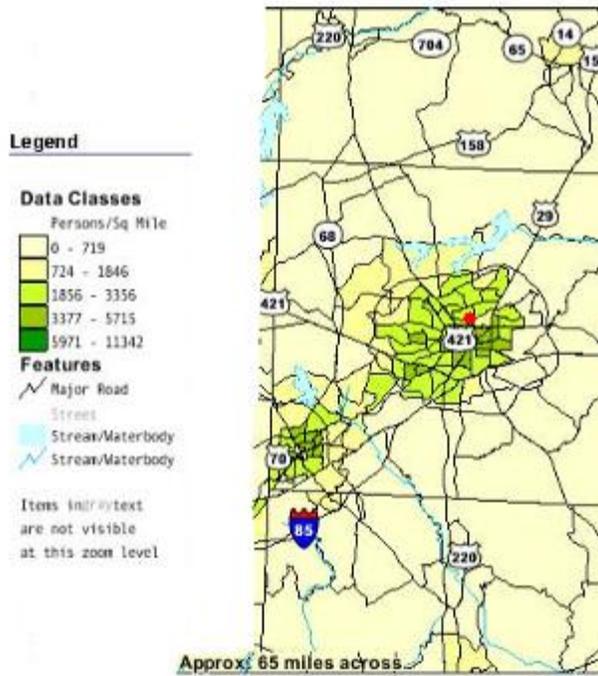
The locations of these segments are shown with lettered black squares in Figure B50. They stretch from the eastern part of Guilford County to the western part with heaviest fleet adjusted average annual daily traffic being from central Greensboro going east toward Burlington. At this time, the NC-DAQ is considering placing the monitor along Knox Road by exit 132 on I-85 (Square B). This location is desirable because it is one of the segments with the highest fleet adjusted average annual daily traffic and it is easily accessible from Knox Road. This monitoring station is not required to start monitoring until January 1, 2017.

³ *ibid.*



Figure B50. Possible Locations of Future Greensboro Near-Roadway Nitrogen Dioxide Monitoring Sites

The 2010 **sulfur dioxide monitoring** requirements may affect this area because it was required to have one Population Weighted Emission Inventory (PWEI) monitor based on the 2008 emission inventory. However, the point source emissions in 2010 are 2,500 tons lower than in 2008, resulting in a PWEI index of 4,800, which is below the 5,000 threshold for monitoring. As a result of the lower calculated PWEI index and the shutting down of coal fired units #1 and #2 at the Dan River Steam Station in October 2012, a PWEI monitor is no longer needed and the NC-DAQ recommends that no PWEI monitoring be done in the Greensboro MSA. If EPA requires PWEI monitoring, the PWEI monitor will be located at the Mendenhall site as a population exposure monitor. Figure B51 shows the location of the proposed PWEI monitor relative to where people lived based on the 2000 census. Figure B52 shows the distribution of sulfur dioxide emissions among the counties in the MSA. Two permitted sources of sulfur dioxide are within 2.5 kilometers of the Mendenhall site: the Moses H. Cone Memorial Hospital and Cone Denim, LLC. Both facilities emit less than 0.4 tons of sulfur dioxide per year. This MSA will not be impacted by the changes to the **carbon dioxide monitoring** requirements because the population is too small.



Source: U.S. Census Bureau, Census 2000 Summary File 1, Matrix P1.

Figure B51. Location of Proposed Greensboro-High Point PWEI Monitor (red dot) in Relationship to Centers of Population in 2000

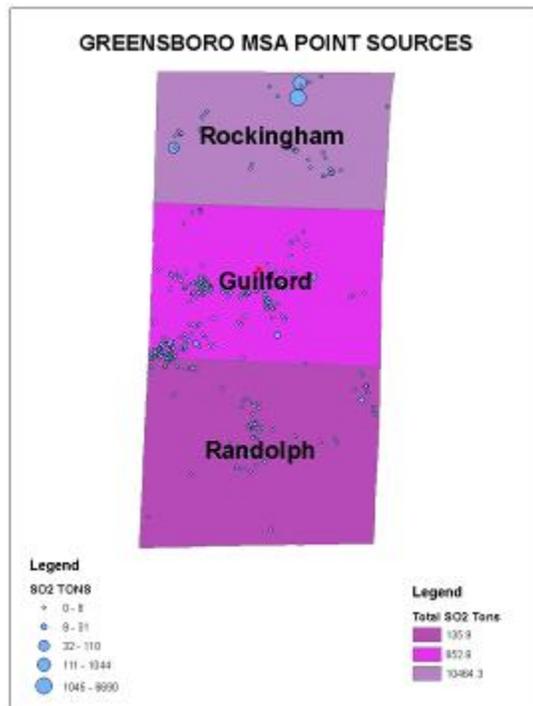


Figure B52. Location of the proposed Greensboro-High Point PWEI Sulfur Dioxide Monitor (red dot) in Relationship to Sulfur Dioxide Sources

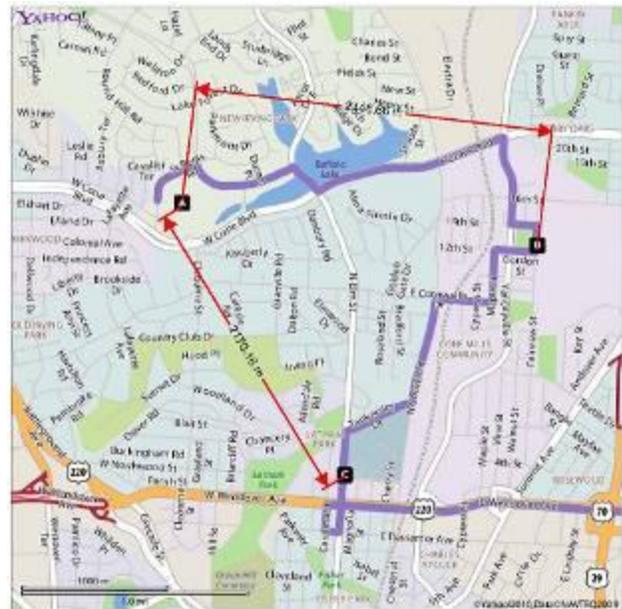


Figure B53. Location of the Mendenhall Monitoring Site (A) in Relationship to Cone Denim, LLC, (B) and the Moses H. Cone Memorial Hospital (C)

(5) The Burlington MSA

The Burlington MSA consists of the county of Alamance. The major metropolitan area is the city of Burlington. The NC-DAQ currently operates one monitoring site in the Burlington MSA. This monitoring site is a fine particle monitoring site located on Hopedale road. Currently, this fine particle monitoring site is not required by 40 CFR 58 Appendix D. The site has a fine particle FRM that monitors on a 1-in-6 day schedule as well as a fine particle continuous monitor that provides hourly data for real time air quality index (AQI) reporting and for fine particle AQI forecasting. A picture of the site as well as views looking north, northeast, east, southeast, south, southwest, west, and northwest are provided in Figure B54 through Figure B62.



Figure B54. The Hopedale (Burlington) Fine Particle Monitoring Site



Figure B55. Looking North from the Hopedale Site



Figure B57. Looking Northeast from the Hopedale Site



Figure B56. Looking Northwest from the Hopedale Site



Figure B58. Looking East from the Hopedale Site



Figure B59. Looking West from the Hopedale Site



Figure B61. Looking Southeast from the Hopedale Site



Figure B60. Looking Southwest from the Hopedale Site

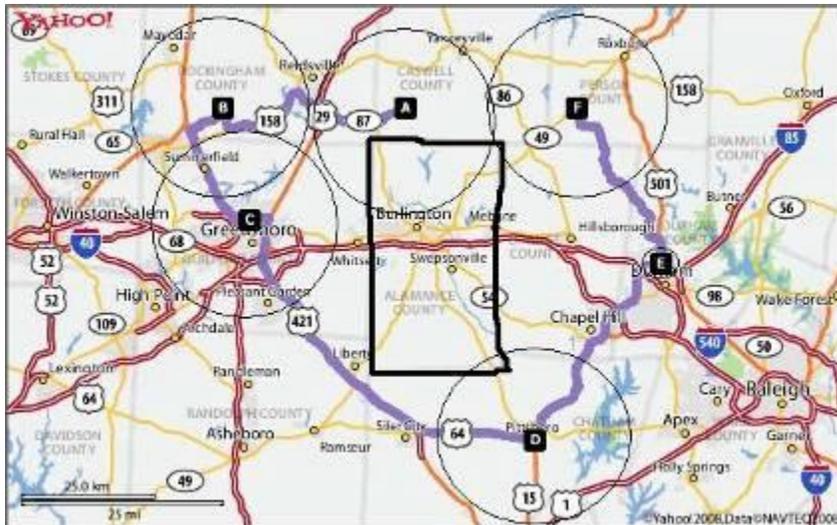


Figure B62. Looking South from the Hopedale Site

The Burlington MSA was not affected by changes made to the **lead monitoring** requirements in December 2010 because it does not have an NCore site and does not have any permitted facilities emitting 0.5 tons or more of lead per year.⁴ The Burlington MSA will not be impacted by the 2010 **nitrogen dioxide monitoring** requirements either. It is too small to require area-wide monitors and does not have any roadways with average annual daily traffic above the threshold for near roadway monitoring. The 2010 **sulfur dioxide monitoring** requirements will also not impact the MSA because there are no large sources emitting sulfur dioxide within its bounds. This MSA will also not be impacted by the changes to the **carbon dioxide monitoring** requirements because the population is too small.

The NC-DAQ does not plan to make any changes to the Burlington MSA monitoring network unless the EPA requires additional monitoring for the MSA. Currently, the NC-DAQ does not monitor for ozone in Burlington because there are ozone monitors in the neighboring counties of Chatham, Caswell, Guilford, and Rockingham. Figure B63 shows the locations of these monitors in relation to the Burlington MSA. The monitor at Bushy Fork in Person County (also shown in Figure B63) was established as a downwind monitor for the Burlington MSA. If ozone monitoring becomes required in Burlington the NC-DAQ may propose relocating the Bushy Fork or the Cherry Grove monitor to a location within Alamance County.

⁴ Data obtained from the NC-DAQ emission inventory database available from the world wide web at <http://xapps.enr.state.nc.us/>



The Burlington MSA is outlined in heavy black line. A is the Cherry Grove monitor; B is the Bethany monitor; C is the Mendenhall monitor; D is the Pittsboro monitor; E is the Durham monitor; F is the Bushy Fork monitor. Circles around the monitors approximate the scale of representation (Durham is neighborhood – 0.5 to 4 Km and the others are urban 4 to 50 Km).

Figure B63. Locations of Ozone Monitors near the Burlington MSA.

(6) Caswell County

There are no metropolitan or micropolitan statistical areas in Caswell County. The NC-DAQ currently operates one monitoring site in this county, located in Cherry Grove. Figure B64 shows the location of this ozone and fine particle monitoring site. At the **Cherry Grove** (37-033-0001) site the NC-DAQ operates a seasonal ozone monitor, a one-in-six day fine particle FRM monitor, and a continuous fine particle monitor.



Figure B64. Location of the Cherry Grove monitoring site

A is the Cherry Grove ozone and fine particle site. The circle approximates the urban scale of representation (4 to 50 Km) for ozone and fine particles.

The site and views looking north, northeast, east, south, southwest, and west are shown in Figure B65 through Figure B71. The NC-DAQ plans to begin operating a background PM10 monitor at this site in 2013. The monitor would operate on a one-in-three year schedule to provide data for prevention of significant deterioration modeling for industrial expansion. In first quarter 2012 the continuous fine particle monitor at the site was replaced with a beta attenuation monitor (BAM). Sometime in the next six to 12 months the one-in-six day FRM monitor may shut down and be replaced with the BAM.



Figure B65. Cherry Grove Ozone, Ozone Precursor, and Fine Particle Monitoring Site (37-033-0001)



Figure B66. Looking North from Cherry Grove Site



Figure B69. Looking Northeast from Cherry Grove Site



Figure B67. Looking West from Cherry Grove Site



Figure B70. Looking East from Cherry Grove Site



Figure B68. Looking Southwest from Cherry Grove Site



Figure B71. Looking South from Cherry Grove Site

Caswell County was not affected by changes to the **lead monitoring requirements** because it does not have an NCore monitoring site and does not have any permitted facilities located within its bounds that emit 0.5 tons or more of lead per year.⁵ Caswell County will also not be impacted by any new **ozone monitoring requirements**. This county does not have an MSA that must meet the minimum monitoring

⁵ Data obtained from the NC-DAQ emission inventory database available from the world wide web at <http://xapps.enr.state.nc.us/>.

requirements in 40 CFR 58 Appendix D for population exposure monitoring in urban areas. This area should also not be impacted by rural ozone monitoring requirements. It does not have any Class I Areas and already has a rural ozone monitor.

Caswell County will not be impacted by the 2010 **nitrogen dioxide monitoring requirements**. It is too small to require area-wide monitors and does not have any roadways with average annual daily traffic above the threshold for near roadway monitoring. This area will not be impacted by any 2010 **sulfur dioxide monitoring** requirements because it does not have any large sulfur dioxide sources within its bounds. It will also not be impacted by the **changes to the carbon dioxide monitoring requirements** because the population is too small.

Appendix B.1 Annual Network Site Review Forms for 2011

Boone

Mocksville

Lexington

Colfax

Mendenhall in Greensboro

Bethany

Hopedale in Burlington

Cherry Grove

Site Review Form Calendar Year 2011

Site Information

Region <u>WSRO</u>		Site Name <u>Boone</u>		AQS Site # <u>37- 189 - 0003</u>	
Street Address <u>361 Jefferson Road</u>				City <u>Boone, NC 28607</u>	
Urban Area <u>BOONE</u>			Core-based Statistical Area <u>Boone, NC</u>		
Enter Exact					
Longitude <u>-81.66305</u>		Latitude <u>36.221944</u>		Method of Measuring	
In Decimal Degrees		In Decimal Degrees		GPS	Explanation: _____
Elevation Above/below Mean Sea Level (in meters)					<u>945</u>
Name of nearest road to inlet probe <u>HWY 194</u> ADT <u>12000</u> Year latest available _____					
Comments: <u>"Traffic Volume (AADT) Watauga County, 2010 "</u>					
Distance of site to nearest major road (m) _____ Direction from site to nearest major road _____					
Name of nearest major road _____ ADT _____ Year _____					
Comments: _____					
Site located near electrical substation/high voltage power lines?					Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Distance of site to nearest railroad track			(m) _____	Direction to RR _____ <input checked="" type="checkbox"/> NA	
Distance of site to nearest power pole w/transformer			(m) _____	Direction _____	
Distance between site and drip line of water tower (m) _____			Direction from site to water tower _____ <input checked="" type="checkbox"/> NA		
Explain any sources of potential bias; include cultivated fields, loose bulk storage, stacks, vents, railroad tracks, construction activities, fast food restaurants, and swimming pools. _____					

ANSWER ALL APPLICABLE QUESTIONS:

Parameters	Monitoring Objective	Scale	Site Type
<input checked="" type="checkbox"/> NA <input type="checkbox"/> SO ₂ (NAAQS) <input type="checkbox"/> SO ₂ (trace-level) <input type="checkbox"/> NO _x (NAAQS) <input type="checkbox"/> HSN ₂ O ₅ <input type="checkbox"/> O ₃ <input type="checkbox"/> NH ₃ <input type="checkbox"/> Hydrocarbon <input type="checkbox"/> Air Toxics <input type="checkbox"/> HSCO (Not Micro) <input type="checkbox"/> CO (trace-level)	<input type="checkbox"/> General/Background _____ <input type="checkbox"/> Highest Concentration _____ <input type="checkbox"/> Max O ₃ Concentration _____ <input type="checkbox"/> Population Exposure _____ <input type="checkbox"/> Source Oriented _____ <input type="checkbox"/> Transport _____ <input type="checkbox"/> Upwind Background _____ <input type="checkbox"/> Welfare Related Impacts _____	<input type="checkbox"/> Micro _____ <input type="checkbox"/> Middle _____ <input type="checkbox"/> Neighborhood _____ <input type="checkbox"/> Urban _____ <input type="checkbox"/> Regional _____	<input type="checkbox"/> SLAMS _____ <input type="checkbox"/> NCORE _____ <input type="checkbox"/> SPM _____ <input type="checkbox"/> SPM/OPN _____ <input type="checkbox"/> NONREGULATORY _____
Probe inlet height (from ground) 2-15 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Give actual measured height from ground (meters) _____			
Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes <input type="checkbox"/> No <input type="checkbox"/>			
Actual measured distance from probe to supporting structure (meters) _____			
Distance of probe inlet from other monitoring probe inlets > 1 m? Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>			
Is probe > 20 m from the nearest tree drip line? Yes <input type="checkbox"/> *No <input type="checkbox"/> (answer *d questions)			
*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes <input type="checkbox"/> *No <input type="checkbox"/>			
*Distance from probe to tree (m) _____ Direction from probe to tree _____			
*Height of tree (m) _____			
Are there any obstacles to air flow? *Yes <input type="checkbox"/> (answer *d questions) No <input type="checkbox"/>			
*Identify obstacle _____ Distance from probe inlet (m) _____ Direction from probe inlet to obstacle _____			
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes <input type="checkbox"/> No <input type="checkbox"/>			
Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane _____			

Site Review Form Calendar Year 2011

Parameters	Monitoring Objective	Scale	Site Type
<input checked="" type="checkbox"/> NA <input type="checkbox"/> CO (Micro Only)	<input type="checkbox"/> Highest Concentration _____ <input type="checkbox"/> Population Exposure _____ <input type="checkbox"/> Source Oriented _____ <input type="checkbox"/> Transport _____ <input type="checkbox"/> Welfare Related Impacts _____	<input type="checkbox"/> Micro _____	<input type="checkbox"/> SLAMS _____ <input type="checkbox"/> SPM _____ <input type="checkbox"/> SPM/OPN _____ <input type="checkbox"/> NONREGULATORY
Probe inlet height (from ground) 2.5 - 3.5 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Actual measured distance from probe inlet to ground (meters) _____			
Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Actual measured distance from probe to supporting structure (meters) _____			
Distance of probe inlet to nearest intersection > 10 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Distance of probe inlet to nearest traffic lane 2 - 10 m? Yes <input type="checkbox"/> No <input type="checkbox"/>			
Is probe > 20 m from the nearest tree drip line? Yes <input type="checkbox"/> *No <input type="checkbox"/> (answer *'d questions)			
*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes <input type="checkbox"/> *No <input type="checkbox"/>			
*Distance from probe to tree (m) _____ Direction from probe to tree _____			
*Height of tree (m) _____			
Are there any obstacles to air flow? *Yes <input type="checkbox"/> (answer *'d questions) No <input type="checkbox"/>			
*Identify obstacle _____ Distance from probe inlet (m) _____ Direction from probe inlet to obstacle _____			
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes <input type="checkbox"/> No <input type="checkbox"/>			
Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane _____			

Parameters	Monitoring Objective	Scale	Site Type
<input checked="" type="checkbox"/> NA <input type="checkbox"/> NO _y (trace-level)	<input type="checkbox"/> General/Background _____ <input type="checkbox"/> Highest Concentration _____ <input type="checkbox"/> Max O ₃ Concentration _____ <input type="checkbox"/> Population Exposure _____ <input type="checkbox"/> Source Oriented _____ <input type="checkbox"/> Transport _____ <input type="checkbox"/> Upwind Background _____ <input type="checkbox"/> Welfare Related Impacts _____	<input type="checkbox"/> Micro _____ <input type="checkbox"/> Middle _____ <input type="checkbox"/> Neighborhood _____ <input type="checkbox"/> Urban _____ <input type="checkbox"/> Regional _____	<input type="checkbox"/> SLAMS _____ <input type="checkbox"/> NCORE _____ <input type="checkbox"/> SPM _____ <input type="checkbox"/> SPM/OPN _____ <input type="checkbox"/> NONREGULATORY
Probe inlet height (from ground) 10-15 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Actual measured distance from probe inlet to ground (meters) _____			
Distance of probe inlet from horizontal and/or vertical supporting structure > 1 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Actual measured distance from probe to supporting structure (meters) _____			
Distance of probe inlet from other monitoring probe inlets > 1 m? Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>			
Is probe > 20 m from the nearest tree drip line? Yes <input type="checkbox"/> *No <input type="checkbox"/> (answer *'d questions)			
*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes <input type="checkbox"/> *No <input type="checkbox"/>			
*Distance from probe to tree (m) _____ Direction from probe to tree _____			
*Height of tree (m) _____			
Are there any obstacles to air flow? *Yes <input type="checkbox"/> (answer *'d questions) No <input type="checkbox"/>			
*Identify obstacle _____ Distance from probe inlet (m) _____ Direction from probe inlet to obstacle _____			
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes <input type="checkbox"/> No <input type="checkbox"/>			
Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane _____			

Site Review Form Calendar Year 2011

Parameters	Monitoring Objective	Scale	Site Type
<input checked="" type="checkbox"/> NA <input type="checkbox"/> NO ₂ (Near Road only) <input type="checkbox"/> CO (Near Road only)	<input type="checkbox"/> Highest Concentration _____ <input type="checkbox"/> Population Exposure _____ <input type="checkbox"/> Source Oriented _____ <input type="checkbox"/> Transport _____ <input type="checkbox"/> Welfare Related Impacts _____	<input type="checkbox"/> Micro _____	<input type="checkbox"/> SLAMS _____ <input type="checkbox"/> SPM _____ <input type="checkbox"/> NONREGULATORY _____
Probe inlet height (from ground) 2-15 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Give actual measured height from ground (meters) _____ Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Actual measured distance from probe to supporting structure (meters) _____ Distance of probe inlet from other monitoring probe inlets > 1 m? Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>			
Is probe > 20 m from the nearest tree drip line? Yes <input type="checkbox"/> *No <input type="checkbox"/> (answer *'d questions) *Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes <input type="checkbox"/> *No <input type="checkbox"/> *Distance from probe to tree (m) _____ Direction from probe to tree _____ *Height of tree (m) _____			
Are there any obstacles to air flow? *Yes <input type="checkbox"/> (answer *'d questions) No <input type="checkbox"/> *Identify obstacle _____ Distance from probe inlet (m) _____ Direction from probe inlet to obstacle _____ *Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes <input type="checkbox"/> No <input type="checkbox"/> Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane _____			

Parameters	Monitoring Objective	Scale	Site Type
<input checked="" type="checkbox"/> NA Air flow > 200 L/min <input type="checkbox"/> PM10 <input type="checkbox"/> TSP <input type="checkbox"/> Pb	<input type="checkbox"/> Highest Concentration _____ <input type="checkbox"/> Population Exposure _____ <input type="checkbox"/> Source Oriented _____ <input type="checkbox"/> Background _____ <input type="checkbox"/> Transport _____ <input type="checkbox"/> Welfare Related Impacts _____	<input type="checkbox"/> Micro _____ <input type="checkbox"/> Middle _____ <input type="checkbox"/> Neighborhood _____ <input type="checkbox"/> Urban _____ <input type="checkbox"/> Regional _____	<input type="checkbox"/> SLAMS _____ <input type="checkbox"/> NCORE _____ <input type="checkbox"/> SPM _____ <input type="checkbox"/> NONREGULATORY _____
Probe inlet height (from ground) <input type="checkbox"/> < 2 m _____ <input type="checkbox"/> 2-7m _____ <input type="checkbox"/> 7-15 m _____ <input type="checkbox"/> > 15 m _____ Actual measured distance from probe inlet to ground (meters) _____ ----- Distance of inlet from horizontal (wall) and/or vertical (platform or roof) supporting structure > 2 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Actual measured distance from probe to supporting structure (meters) _____ ----- Distance between collocated PM-10, TSP or Pb sampler inlets = 2 to 4 m? Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/> Actual measured distance between collocated probes (meters) _____ Distance between any high volume inlet and any other high or low volume inlet ≥ 2 m? Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>			
Is probe > 20 m from the nearest tree drip line? Yes <input type="checkbox"/> *No <input type="checkbox"/> (answer *'d questions) *Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes <input type="checkbox"/> *No <input type="checkbox"/> *Distance from probe to tree (m) _____ Direction from probe to tree _____ *Height of tree (m) _____			
Are there any obstacles to air flow? *Yes <input type="checkbox"/> (answer *'d questions) No <input type="checkbox"/> *Identify obstacle _____ Distance from probe inlet (m) _____ Direction from probe inlet to obstacle _____ *Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes <input type="checkbox"/> No <input type="checkbox"/> Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane _____			

Site Review Form Calendar Year 2011

Parameters	Monitoring Objective	Scale	Site Type
<input type="checkbox"/> NA Air flow < 200 L/min <input checked="" type="checkbox"/> PM2.5 <input type="checkbox"/> PM10 <input type="checkbox"/> PM10-2.5 <input type="checkbox"/> PM10 Lead (PB) <input type="checkbox"/> PM2.5 Cont. (TEOM) <input type="checkbox"/> PM2.5 Cont. (BAM) <input type="checkbox"/> PM2.5 Spec. (SASS) <input type="checkbox"/> PM2.5 Spec. (URG) <input type="checkbox"/> PM2.5 Cont. Spec.	<input checked="" type="checkbox"/> General/Background _____ <input type="checkbox"/> Highest Concentration _____ <input checked="" type="checkbox"/> Population Exposure _____ <input type="checkbox"/> Source Oriented _____ <input type="checkbox"/> Transport _____ <input type="checkbox"/> Upwind Background _____ <input type="checkbox"/> Welfare Related Impacts _____	<input type="checkbox"/> Micro _____ <input type="checkbox"/> Middle _____ <input checked="" type="checkbox"/> Neighborhood _____ <input type="checkbox"/> Urban _____ <input type="checkbox"/> Regional _____	<input checked="" type="checkbox"/> SLAMS _____ <input type="checkbox"/> N CORE _____ <input type="checkbox"/> SPM _____ <input type="checkbox"/> NONREGULATORY _____
Probe inlet height (from ground) <input type="checkbox"/> < 2 m _____ <input checked="" type="checkbox"/> 2-7m _____ <input type="checkbox"/> 7-15 m _____ <input type="checkbox"/> > 15 m _____ Actual measured distance from probe inlet to ground (meters) <u>2.4 m</u>			
Distance of inlet from horizontal (wall) and/or vertical (platform or roof) supporting structure > 2 m? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>			
Distance between inlets of any low volume monitor and any other low volume monitor at the site - 1 m or greater?			Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input checked="" type="checkbox"/>
Distance between all low volume monitor inlets and any Hi-Volume PM-10 or TSP inlet = 2 m or greater?			Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input checked="" type="checkbox"/>
Are collocated PM2.5 Monitors (Two FRMs, FRM & BAM, FRM & TEOM, BAM & TEOM) Located at Site?		*Yes <input type="checkbox"/> (answer *d questions) No <input type="checkbox"/> NA <input checked="" type="checkbox"/>	
*Distance between collocated PM 2.5 sampler inlets = 1 to 4 m?		Yes <input type="checkbox"/> No <input type="checkbox"/> Give actual (meters) _____	
*Are collocated PM2.5 sampler inlets within 1 m vertically of each other?		Yes <input type="checkbox"/> No <input type="checkbox"/> Give actual (meters) _____	
Is an URG 3000 monitor collocated with a SASS monitor at the site? *Yes <input type="checkbox"/> (answer *d questions) No <input type="checkbox"/> NA <input checked="" type="checkbox"/>			
*Distance between collocated speciation sampler inlets - 1 to 4 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Give actual (meters) _____			
*Are collocated speciation sampler inlets within 1 m vertically of each other? Yes <input type="checkbox"/> No <input type="checkbox"/> Give actual (meters) _____			
Is a low-volume PM10 monitor collocated with a PM2.5 monitor at the site to measure PM10-2.5? *Yes <input type="checkbox"/> (answer *d questions) No <input type="checkbox"/> NA <input checked="" type="checkbox"/>			
*Distance between collocated PM10 and PM2.5 inlets for PM10-2.5 samplers - 1 to 4 m? Yes <input type="checkbox"/> No <input type="checkbox"/>			
*Are collocated PM10 and PM2.5 sampler inlets within 1 m vertically of each other? Yes <input type="checkbox"/> No <input type="checkbox"/>			
Is probe > 20 m from the nearest tree drip line? Yes <input checked="" type="checkbox"/> *No <input type="checkbox"/> (answer *d questions)			
*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes <input type="checkbox"/> *No <input type="checkbox"/>			
*Distance from probe to tree (m) _____ Direction from probe to tree _____			
*Height of tree (m) _____			
Are there any obstacles to air flow? *Yes <input type="checkbox"/> (answer *d questions) No <input checked="" type="checkbox"/>			
*Identify obstacle _____ Distance from probe inlet (m) _____ Direction from probe inlet to obstacle _____			
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes <input type="checkbox"/> No <input type="checkbox"/>			
Distance of probe to nearest traffic lane (m) <u>260</u> Direction from probe to nearest traffic lane <u>ENE</u>			

RECOMMENDATIONS:

- 1) Maintain current site status? Yes *No (answer *d questions)
- *2) Change monitoring objective? Yes (enter new objective _____) No
- *3) Change scale of representativeness? Yes (enter new scale _____) No
- *4) Relocate site? Yes No

Comments:

Reviewer Chengqing Xiao Date January 13, 2012

Ambient Monitoring Coordinator Chengqing Xiao Date January 13, 2012

Revised 2012-03-06

Site Review Form Calendar Year 2011

Site Information

Region <u>WSRO</u>		Site Name <u>Mocksville</u>		AQS Site # <u>37-059 - 0003</u>	
Street Address <u>220 Cherry Street</u>				City <u>Mocksville, NC 27028</u>	
Urban Area <u>MOCKSVILLE</u>			Core-based Statistical Area <u>Winston-Salem, NC</u>		
Enter Exact					
Longitude <u>-80.55728</u>		Latitude <u>35.89706</u>		Method of Measuring	
In Decimal Degrees		In Decimal Degrees		GPS	Explanation: _____
Elevation Above/below Mean Sea Level (in meters)					<u>260</u>
Name of nearest road to inlet probe <u>Pine St</u> ADT <u>200</u> Year estimated _____					
Comments: _____					
Distance of site to nearest major road (m) <u>500 m</u> Direction from site to nearest major road <u>NW</u>					
Name of nearest major road <u>Main Street/Hwy 158</u> ADT <u>7200</u> Year <u>2010</u>					
Comments: <u>ADT # from "Traffic Volume (AADT) Maps 2010-- Davie County"</u>					
Site located near electrical substation/high voltage power lines?					Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Distance of site to nearest railroad track				(m) _____	Direction to RR <u>NA</u> <input checked="" type="checkbox"/>
Distance of site to nearest power pole w/transformer				(m) _____	Direction _____
Distance between site and drip line of water tower (m) _____				Direction from site to water tower <u>NA</u> <input checked="" type="checkbox"/>	
Explain any sources of potential bias; include cultivated fields, loose bulk storage, stacks, vents, railroad tracks, construction activities, fast food restaurants, and swimming pools. _____					

ANSWER ALL APPLICABLE QUESTIONS:

Parameters	Monitoring Objective	Scale	Site Type
<input type="checkbox"/> NA <input type="checkbox"/> SO ₂ (NAAQS) <input type="checkbox"/> SO ₂ (trace-level) <input type="checkbox"/> NO _x (NAAQS) <input type="checkbox"/> HSN _o _y <input checked="" type="checkbox"/> O ₃ <input type="checkbox"/> NH ₃ <input type="checkbox"/> Hydrocarbon <input type="checkbox"/> Air Toxics <input type="checkbox"/> HSCO (Not Micro) <input type="checkbox"/> CO (trace-level)	<input checked="" type="checkbox"/> General/Background _____ <input type="checkbox"/> Highest Concentration _____ <input type="checkbox"/> Max O ₃ Concentration _____ <input checked="" type="checkbox"/> Population Exposure _____ <input type="checkbox"/> Source Oriented _____ <input checked="" type="checkbox"/> Transport _____ <input type="checkbox"/> Upwind Background _____ <input type="checkbox"/> Welfare Related Impacts _____	<input type="checkbox"/> Micro _____ <input type="checkbox"/> Middle _____ <input type="checkbox"/> Neighborhood _____ <input checked="" type="checkbox"/> Urban _____ <input type="checkbox"/> Regional _____	<input checked="" type="checkbox"/> SLAMS _____ <input type="checkbox"/> NCORE _____ <input type="checkbox"/> SPM _____ <input type="checkbox"/> SPM/OPN _____ <input type="checkbox"/> NONREGULATORY _____
Probe inlet height (from ground) 2-15 m? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Give actual measured height from ground (meters) <u>3 m</u>			
Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>			
Actual measured distance from probe to supporting structure (meters) <u>0.5 m</u>			
Distance of probe inlet from other monitoring probe inlets > 1 m? Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input checked="" type="checkbox"/>			
Is probe > 20 m from the nearest tree drip line? Yes <input checked="" type="checkbox"/> *No <input type="checkbox"/> (answer *d questions)			
*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes <input type="checkbox"/> *No <input type="checkbox"/>			
*Distance from probe to tree (m) _____ Direction from probe to tree _____			
*Height of tree (m) _____			
Are there any obstacles to air flow? *Yes <input type="checkbox"/> (answer *d questions) No <input checked="" type="checkbox"/>			
*Identify obstacle _____ Distance from probe inlet (m) _____ Direction from probe inlet to obstacle _____			
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>			
Distance of probe to nearest traffic lane (m) <u>20 m</u> Direction from probe to nearest traffic lane <u>SW</u>			

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Parameters	Monitoring Objective	Scale	Site Type
<input checked="" type="checkbox"/> NA <input type="checkbox"/> CO (Micro Only)	<input type="checkbox"/> Highest Concentration _____ <input type="checkbox"/> Population Exposure _____ <input type="checkbox"/> Source Oriented _____ <input type="checkbox"/> Transport _____ <input type="checkbox"/> Welfare Related Impacts _____	<input type="checkbox"/> Micro _____	<input type="checkbox"/> SLAMS _____ <input type="checkbox"/> SPM _____ <input type="checkbox"/> SPM/OPN _____ <input type="checkbox"/> NONREGULATORY
Probe inlet height (from ground) 2.5 - 3.5 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Actual measured distance from probe inlet to ground (meters) _____			
Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Actual measured distance from probe to supporting structure (meters) _____			
Distance of probe inlet to nearest intersection > 10 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Distance of probe inlet to nearest traffic lane 2 - 10 m? Yes <input type="checkbox"/> No <input type="checkbox"/>			
Is probe > 20 m from the nearest tree drip line? Yes <input type="checkbox"/> *No <input type="checkbox"/> (answer *'d questions)			
*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes <input type="checkbox"/> *No <input type="checkbox"/>			
*Distance from probe to tree (m) _____ Direction from probe to tree _____			
*Height of tree (m) _____			
Are there any obstacles to air flow? *Yes <input type="checkbox"/> (answer *'d questions) No <input type="checkbox"/>			
*Identify obstacle _____ Distance from probe inlet (m) _____ Direction from probe inlet to obstacle _____			
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes <input type="checkbox"/> No <input type="checkbox"/>			
Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane _____			

Parameters	Monitoring Objective	Scale	Site Type
<input checked="" type="checkbox"/> NA <input type="checkbox"/> NO _y (trace-level)	<input type="checkbox"/> General/Background _____ <input type="checkbox"/> Highest Concentration _____ <input type="checkbox"/> Max O ₃ Concentration _____ <input type="checkbox"/> Population Exposure _____ <input type="checkbox"/> Source Oriented _____ <input type="checkbox"/> Transport _____ <input type="checkbox"/> Upwind Background _____ <input type="checkbox"/> Welfare Related Impacts _____	<input type="checkbox"/> Micro _____ <input type="checkbox"/> Middle _____ <input type="checkbox"/> Neighborhood _____ <input type="checkbox"/> Urban _____ <input type="checkbox"/> Regional _____	<input type="checkbox"/> SLAMS _____ <input type="checkbox"/> NCORE _____ <input type="checkbox"/> SPM _____ <input type="checkbox"/> SPM/OPN _____ <input type="checkbox"/> NONREGULATORY
Probe inlet height (from ground) 10-15 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Actual measured distance from probe inlet to ground (meters) _____			
Distance of probe inlet from horizontal and/or vertical supporting structure > 1 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Actual measured distance from probe to supporting structure (meters) _____			
Distance of probe inlet from other monitoring probe inlets > 1 m? Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>			
Is probe > 20 m from the nearest tree drip line? Yes <input type="checkbox"/> *No <input type="checkbox"/> (answer *'d questions)			
*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes <input type="checkbox"/> *No <input type="checkbox"/>			
*Distance from probe to tree (m) _____ Direction from probe to tree _____			
*Height of tree (m) _____			
Are there any obstacles to air flow? *Yes <input type="checkbox"/> (answer *'d questions) No <input type="checkbox"/>			
*Identify obstacle _____ Distance from probe inlet (m) _____ Direction from probe inlet to obstacle _____			
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes <input type="checkbox"/> No <input type="checkbox"/>			
Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane _____			

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Parameters	Monitoring Objective	Scale	Site Type
<input checked="" type="checkbox"/> NA <input type="checkbox"/> NO ₂ (Near Road only) <input type="checkbox"/> CO (Near Road only)	<input type="checkbox"/> Highest Concentration _____ <input type="checkbox"/> Population Exposure _____ <input type="checkbox"/> Source Oriented _____ <input type="checkbox"/> Transport _____ <input type="checkbox"/> Welfare Related Impacts _____	<input type="checkbox"/> Micro _____	<input type="checkbox"/> SLAMS _____ <input type="checkbox"/> SPM _____ <input type="checkbox"/> NONREGULATORY _____
Probe inlet height (from ground) 2-15 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Give actual measured height from ground (meters) _____ Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Actual measured distance from probe to supporting structure (meters) _____ Distance of probe inlet from other monitoring probe inlets > 1 m? Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>			
Is probe > 20 m from the nearest tree drip line? Yes <input type="checkbox"/> *No <input type="checkbox"/> (answer *'d questions) *Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes <input type="checkbox"/> *No <input type="checkbox"/> *Distance from probe to tree (m) _____ Direction from probe to tree _____ *Height of tree (m) _____			
Are there any obstacles to air flow? *Yes <input type="checkbox"/> (answer *'d questions) No <input type="checkbox"/> *Identify obstacle _____ Distance from probe inlet (m) _____ Direction from probe inlet to obstacle _____ *Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes <input type="checkbox"/> No <input type="checkbox"/> Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane _____			

Parameters	Monitoring Objective	Scale	Site Type
<input checked="" type="checkbox"/> NA Air flow > 200 L/min <input type="checkbox"/> PM10 <input type="checkbox"/> TSP <input type="checkbox"/> Pb	<input type="checkbox"/> Highest Concentration _____ <input type="checkbox"/> Population Exposure _____ <input type="checkbox"/> Source Oriented _____ <input type="checkbox"/> Background _____ <input type="checkbox"/> Transport _____ <input type="checkbox"/> Welfare Related Impacts _____	<input type="checkbox"/> Micro _____ <input type="checkbox"/> Middle _____ <input type="checkbox"/> Neighborhood _____ <input type="checkbox"/> Urban _____ <input type="checkbox"/> Regional _____	<input type="checkbox"/> SLAMS _____ <input type="checkbox"/> NCORE _____ <input type="checkbox"/> SPM _____ <input type="checkbox"/> NONREGULATORY _____
Probe inlet height (from ground) <input type="checkbox"/> < 2 m _____ <input type="checkbox"/> 2-7m _____ <input type="checkbox"/> 7-15 m _____ <input type="checkbox"/> > 15 m _____ Actual measured distance from probe inlet to ground (meters) _____ ----- Distance of inlet from horizontal (wall) and/or vertical (platform or roof) supporting structure > 2 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Actual measured distance from probe to supporting structure (meters) _____ ----- Distance between collocated PM-10, TSP or Pb sampler inlets = 2 to 4 m? Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/> Actual measured distance between collocated probes (meters) _____ Distance between any high volume inlet and any other high or low volume inlet ≥ 2 m? Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>			
Is probe > 20 m from the nearest tree drip line? Yes <input type="checkbox"/> *No <input type="checkbox"/> (answer *'d questions) *Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes <input type="checkbox"/> *No <input type="checkbox"/> *Distance from probe to tree (m) _____ Direction from probe to tree _____ *Height of tree (m) _____			
Are there any obstacles to air flow? *Yes <input type="checkbox"/> (answer *'d questions) No <input type="checkbox"/> *Identify obstacle _____ Distance from probe inlet (m) _____ Direction from probe inlet to obstacle _____ *Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes <input type="checkbox"/> No <input type="checkbox"/> Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane _____			

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Parameters	Monitoring Objective	Scale	Site Type
<input checked="" type="checkbox"/> NA Air flow < 200 L/min <input type="checkbox"/> PM2.5 <input type="checkbox"/> PM10 <input type="checkbox"/> PM10-2.5 <input type="checkbox"/> PM10 Lead (PB) <input type="checkbox"/> PM2.5 Cont. (TEOM) <input type="checkbox"/> PM2.5 Cont. (BAM) <input type="checkbox"/> PM2.5 Spec. (SASS) <input type="checkbox"/> PM2.5 Spec. (URG) <input type="checkbox"/> PM2.5 Cont. Spec.	<input type="checkbox"/> General/Background <input type="checkbox"/> Highest Concentration <input type="checkbox"/> Population Exposure <input type="checkbox"/> Source Oriented <input type="checkbox"/> Transport <input type="checkbox"/> Upwind Background <input type="checkbox"/> Welfare Related Impacts	<input type="checkbox"/> Micro <input type="checkbox"/> Middle <input type="checkbox"/> Neighborhood <input type="checkbox"/> Urban <input type="checkbox"/> Regional	<input type="checkbox"/> SLAMS <input type="checkbox"/> N CORE <input type="checkbox"/> SPM <input type="checkbox"/> NONREGULATORY
Probe inlet height (from ground) <input type="checkbox"/> < 2 m <input type="checkbox"/> 2-7m <input type="checkbox"/> 7-15 m <input type="checkbox"/> > 15 m Actual measured distance from probe inlet to ground (meters) _____			
Distance of inlet from horizontal (wall) and/or vertical (platform or roof) supporting structure > 2 m? Yes <input type="checkbox"/> No <input type="checkbox"/>			
Distance between inlets of any low volume monitor and any other low volume monitor at the site - 1 m or greater?			Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>
Distance between all low volume monitor inlets and any Hi-Volume PM-10 or TSP inlet = 2 m or greater?			Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>
Are collocated PM2.5 Monitors (Two FRMs, FRM & BAM, FRM & TEOM, BAM & TEOM) Located at Site?		*Yes <input type="checkbox"/> (answer *d questions) No <input type="checkbox"/> NA <input type="checkbox"/>	
*Distance between collocated PM 2.5 sampler inlets = 1 to 4 m?		Yes <input type="checkbox"/> No <input type="checkbox"/> Give actual (meters) _____	
*Are collocated PM2.5 sampler inlets within 1 m vertically of each other?		Yes <input type="checkbox"/> No <input type="checkbox"/> Give actual (meters) _____	
Is an URG 3000 monitor collocated with a SASS monitor at the site?		*Yes <input type="checkbox"/> (answer *d questions) No <input type="checkbox"/> NA <input type="checkbox"/>	
*Distance between collocated speciation sampler inlets - 1 to 4 m?		Yes <input type="checkbox"/> No <input type="checkbox"/> Give actual (meters) _____	
*Are collocated speciation sampler inlets within 1 m vertically of each other?		Yes <input type="checkbox"/> No <input type="checkbox"/> Give actual (meters) _____	
Is a low-volume PM10 monitor collocated with a PM2.5 monitor at the site to measure PM10-2.5?		*Yes <input type="checkbox"/> (answer *d questions) No <input type="checkbox"/> NA <input type="checkbox"/>	
*Distance between collocated PM10 and PM2.5 inlets for PM10-2.5 samplers - 1 to 4 m?		Yes <input type="checkbox"/> No <input type="checkbox"/>	
*Are collocated PM10 and PM2.5 sampler inlets within 1 m vertically of each other?		Yes <input type="checkbox"/> No <input type="checkbox"/>	
Is probe > 20 m from the nearest tree drip line? Yes <input type="checkbox"/> *No <input type="checkbox"/> (answer *d questions)			
*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes <input type="checkbox"/> *No <input type="checkbox"/>			
*Distance from probe to tree (m) _____ Direction from probe to tree _____			
*Height of tree (m) _____			
Are there any obstacles to air flow? *Yes <input type="checkbox"/> (answer *d questions) No <input type="checkbox"/>			
*Identify obstacle _____ Distance from probe inlet (m) _____ Direction from probe inlet to obstacle _____			
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes <input type="checkbox"/> No <input type="checkbox"/>			
Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane _____			

RECOMMENDATIONS:

- 1) Maintain current site status? Yes *No (answer *d questions)
- *2) Change monitoring objective? Yes (enter new objective _____) No
- *3) Change scale of representativeness? Yes (enter new scale _____) No
- *4) Relocate site? Yes No

Comments:

Reviewer Chengqing Xiao Date January 13, 2012

Ambient Monitoring Coordinator Chengqing Xiao Date January 13, 2012

Revised 2012-03-08

Site Review Form Calendar Year 2011

Site Information

Region <u>WSRO</u>		Site Name <u>LX</u>		AQS Site # 37- <u>057</u> - <u>0002</u>		
Street Address <u>938 S Salisbury St.</u>			City <u>Lexington, NC 27292</u>			
Urban Area <u>LEXINGTON</u>		Core-based Statistical Area <u>Thomasville-Lexington, NC</u>				
Enter Exact						
Longitude <u>-80.26281</u>		Latitude <u>35.81446</u>		Method of Measuring		
In Decimal Degrees		In Decimal Degrees		Other (explain) Explanation: <u>Google Earth</u>		
Elevation Above/below Mean Sea Level (in meters) <u>241</u>						
Name of nearest road to inlet probe <u>S Salisbury St.</u> ADT <u>1000</u> Year estimated <u> </u>						
Comments: <u>An estimated ADT number from previous year</u>						
Distance of site to nearest major road (m) <u>100 m</u> Direction from site to nearest major road <u>NNW</u>						
Name of nearest major road <u>South Main St.</u> ADT <u>14000</u> Year latest available <u> </u>						
Comments: <u>"Traffic Volume (AADT) Maps 2010 -- Davidson County"</u>						
Site located near electrical substation/high voltage power lines?					Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Distance of site to nearest railroad track			(m) <u>120</u>	Direction to RR <u>NE</u>	<input type="checkbox"/> NA	
Distance of site to nearest power pole w/transformer			(m) <u> </u>	Direction <u> </u>	<input type="checkbox"/> NA	
Distance between site and drip line of water tower (m) <u>5 m</u>			Direction from site to water tower <u>SSW</u>	<input type="checkbox"/> NA		
Explain any sources of potential bias; include cultivated fields, loose bulk storage, stacks, vents, railroad tracks, construction activities, fast food restaurants, and swimming pools. <u> </u>						

ANSWER ALL APPLICABLE QUESTIONS:

Parameters	Monitoring Objective	Scale	Site Type
<input checked="" type="checkbox"/> NA <input type="checkbox"/> SO ₂ (NAAQS) <input type="checkbox"/> SO ₂ (trace-level) <input type="checkbox"/> NO _x (NAAQS) <input type="checkbox"/> HSN _o _y <input type="checkbox"/> O ₃ <input type="checkbox"/> NH ₃ <input type="checkbox"/> Hydrocarbon <input type="checkbox"/> Air Toxics <input type="checkbox"/> HSCO (Not Micro) <input type="checkbox"/> CO (trace-level)	<input type="checkbox"/> General/Background <input type="checkbox"/> Highest Concentration <input type="checkbox"/> Max O ₃ Concentration <input type="checkbox"/> Population Exposure <input type="checkbox"/> Source Oriented <input type="checkbox"/> Transport <input type="checkbox"/> Upwind Background <input type="checkbox"/> Welfare Related Impacts	<input type="checkbox"/> Micro <input type="checkbox"/> Middle <input type="checkbox"/> Neighborhood <input type="checkbox"/> Urban <input type="checkbox"/> Regional	<input type="checkbox"/> SLAMS <input type="checkbox"/> NCORE <input type="checkbox"/> SPM <input type="checkbox"/> SPM/OPN <input type="checkbox"/> NONREGULATORY
Probe inlet height (from ground) 2-15 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Give actual measured height from ground (meters) <u> </u>			
Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes <input type="checkbox"/> No <input type="checkbox"/>			
Actual measured distance from probe to supporting structure (meters) <u> </u>			
Distance of probe inlet from other monitoring probe inlets > 1 m? Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>			
Is probe > 20 m from the nearest tree drip line? Yes <input type="checkbox"/> *No <input type="checkbox"/> (answer *d questions)			
*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes <input type="checkbox"/> *No <input type="checkbox"/>			
*Distance from probe to tree (m) <u> </u> Direction from probe to tree <u> </u>			
*Height of tree (m) <u> </u>			
Are there any obstacles to air flow? *Yes <input type="checkbox"/> (answer *d questions) No <input type="checkbox"/>			
*Identify obstacle <u> </u> Distance from probe inlet (m) <u> </u> Direction from probe inlet to obstacle <u> </u>			
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes <input type="checkbox"/> No <input type="checkbox"/>			
Distance of probe to nearest traffic lane (m) <u> </u> Direction from probe to nearest traffic lane <u> </u>			

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Parameters	Monitoring Objective	Scale	Site Type
<input checked="" type="checkbox"/> NA <input type="checkbox"/> CO (Micro Only)	<input type="checkbox"/> Highest Concentration _____ <input type="checkbox"/> Population Exposure _____ <input type="checkbox"/> Source Oriented _____ <input type="checkbox"/> Transport _____ <input type="checkbox"/> Welfare Related Impacts _____	<input type="checkbox"/> Micro _____	<input type="checkbox"/> SLAMS _____ <input type="checkbox"/> SPM _____ <input type="checkbox"/> SPM/OPN _____ <input type="checkbox"/> NONREGULATORY
Probe inlet height (from ground) 2.5 - 3.5 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Actual measured distance from probe inlet to ground (meters) _____			
Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Actual measured distance from probe to supporting structure (meters) _____			
Distance of probe inlet to nearest intersection > 10 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Distance of probe inlet to nearest traffic lane 2 - 10 m? Yes <input type="checkbox"/> No <input type="checkbox"/>			
Is probe > 20 m from the nearest tree drip line? Yes <input type="checkbox"/> *No <input type="checkbox"/> (answer *'d questions)			
*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes <input type="checkbox"/> *No <input type="checkbox"/>			
*Distance from probe to tree (m) _____ Direction from probe to tree _____			
*Height of tree (m) _____			
Are there any obstacles to air flow? *Yes <input type="checkbox"/> (answer *'d questions) No <input type="checkbox"/>			
*Identify obstacle _____ Distance from probe inlet (m) _____ Direction from probe inlet to obstacle _____			
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes <input type="checkbox"/> No <input type="checkbox"/>			
Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane _____			

Parameters	Monitoring Objective	Scale	Site Type
<input checked="" type="checkbox"/> NA <input type="checkbox"/> NO _y (trace-level)	<input type="checkbox"/> General/Background _____ <input type="checkbox"/> Highest Concentration _____ <input type="checkbox"/> Max O ₃ Concentration _____ <input type="checkbox"/> Population Exposure _____ <input type="checkbox"/> Source Oriented _____ <input type="checkbox"/> Transport _____ <input type="checkbox"/> Upwind Background _____ <input type="checkbox"/> Welfare Related Impacts _____	<input type="checkbox"/> Micro _____ <input type="checkbox"/> Middle _____ <input type="checkbox"/> Neighborhood _____ <input type="checkbox"/> Urban _____ <input type="checkbox"/> Regional _____	<input type="checkbox"/> SLAMS _____ <input type="checkbox"/> NCORE _____ <input type="checkbox"/> SPM _____ <input type="checkbox"/> SPM/OPN _____ <input type="checkbox"/> NONREGULATORY
Probe inlet height (from ground) 10-15 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Actual measured distance from probe inlet to ground (meters) _____			
Distance of probe inlet from horizontal and/or vertical supporting structure > 1 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Actual measured distance from probe to supporting structure (meters) _____			
Distance of probe inlet from other monitoring probe inlets > 1 m? Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>			
Is probe > 20 m from the nearest tree drip line? Yes <input type="checkbox"/> *No <input type="checkbox"/> (answer *'d questions)			
*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes <input type="checkbox"/> *No <input type="checkbox"/>			
*Distance from probe to tree (m) _____ Direction from probe to tree _____			
*Height of tree (m) _____			
Are there any obstacles to air flow? *Yes <input type="checkbox"/> (answer *'d questions) No <input type="checkbox"/>			
*Identify obstacle _____ Distance from probe inlet (m) _____ Direction from probe inlet to obstacle _____			
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes <input type="checkbox"/> No <input type="checkbox"/>			
Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane _____			

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Parameters	Monitoring Objective	Scale	Site Type
<input checked="" type="checkbox"/> NA <input type="checkbox"/> NO ₂ (Near Road only) <input type="checkbox"/> CO (Near Road only)	<input type="checkbox"/> Highest Concentration _____ <input type="checkbox"/> Population Exposure _____ <input type="checkbox"/> Source Oriented _____ <input type="checkbox"/> Transport _____ <input type="checkbox"/> Welfare Related Impacts _____	<input type="checkbox"/> Micro _____	<input type="checkbox"/> SLAMS _____ <input type="checkbox"/> SPM _____ <input type="checkbox"/> NONREGULATORY _____
Probe inlet height (from ground) 2-15 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Give actual measured height from ground (meters) _____ Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Actual measured distance from probe to supporting structure (meters) _____ Distance of probe inlet from other monitoring probe inlets > 1 m? Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>			
Is probe > 20 m from the nearest tree drip line? Yes <input type="checkbox"/> *No <input type="checkbox"/> (answer *'d questions) *Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes <input type="checkbox"/> *No <input type="checkbox"/> *Distance from probe to tree (m) _____ Direction from probe to tree _____ *Height of tree (m) _____			
Are there any obstacles to air flow? *Yes <input type="checkbox"/> (answer *'d questions) No <input type="checkbox"/> *Identify obstacle _____ Distance from probe inlet (m) _____ Direction from probe inlet to obstacle _____ *Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes <input type="checkbox"/> No <input type="checkbox"/> Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane _____			

Parameters	Monitoring Objective	Scale	Site Type
<input checked="" type="checkbox"/> NA Air flow > 200 L/min <input type="checkbox"/> PM10 <input type="checkbox"/> TSP <input type="checkbox"/> Pb	<input type="checkbox"/> Highest Concentration _____ <input type="checkbox"/> Population Exposure _____ <input type="checkbox"/> Source Oriented _____ <input type="checkbox"/> Background _____ <input type="checkbox"/> Transport _____ <input type="checkbox"/> Welfare Related Impacts _____	<input type="checkbox"/> Micro _____ <input type="checkbox"/> Middle _____ <input type="checkbox"/> Neighborhood _____ <input type="checkbox"/> Urban _____ <input type="checkbox"/> Regional _____	<input type="checkbox"/> SLAMS _____ <input type="checkbox"/> NCORE _____ <input type="checkbox"/> SPM _____ <input type="checkbox"/> NONREGULATORY _____
Probe inlet height (from ground) <input type="checkbox"/> < 2 m _____ <input type="checkbox"/> 2-7m _____ <input type="checkbox"/> 7-15 m _____ <input type="checkbox"/> > 15 m _____ Actual measured distance from probe inlet to ground (meters) _____ ----- Distance of inlet from horizontal (wall) and/or vertical (platform or roof) supporting structure > 2 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Actual measured distance from probe to supporting structure (meters) _____ ----- Distance between collocated PM-10, TSP or Pb sampler inlets = 2 to 4 m? Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/> Actual measured distance between collocated probes (meters) _____ Distance between any high volume inlet and any other high or low volume inlet ≥ 2 m? Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>			
Is probe > 20 m from the nearest tree drip line? Yes <input type="checkbox"/> *No <input type="checkbox"/> (answer *'d questions) *Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes <input type="checkbox"/> *No <input type="checkbox"/> *Distance from probe to tree (m) _____ Direction from probe to tree _____ *Height of tree (m) _____			
Are there any obstacles to air flow? *Yes <input type="checkbox"/> (answer *'d questions) No <input type="checkbox"/> *Identify obstacle _____ Distance from probe inlet (m) _____ Direction from probe inlet to obstacle _____ *Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes <input type="checkbox"/> No <input type="checkbox"/> Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane _____			

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Parameters	Monitoring Objective	Scale	Site Type
<input type="checkbox"/> NA Air flow < 200 L/min <input checked="" type="checkbox"/> PM2.5 <input type="checkbox"/> PM10 <input type="checkbox"/> PM10-2.5 <input type="checkbox"/> PM10 Lead (PB) <input checked="" type="checkbox"/> PM2.5 Cont. (TEOM) <input type="checkbox"/> PM2.5 Cont. (BAM) <input checked="" type="checkbox"/> PM2.5 Spec. (SASS) <input checked="" type="checkbox"/> PM2.5 Spec. (URG) <input type="checkbox"/> PM2.5 Cont. Spec.	<input checked="" type="checkbox"/> General/Background <input type="checkbox"/> Highest Concentration <input checked="" type="checkbox"/> Population Exposure <input type="checkbox"/> Source Oriented <input type="checkbox"/> Transport <input type="checkbox"/> Upwind Background <input type="checkbox"/> Welfare Related Impacts	<input type="checkbox"/> Micro <input type="checkbox"/> Middle <input checked="" type="checkbox"/> Neighborhood <input type="checkbox"/> Urban <input type="checkbox"/> Regional	<input checked="" type="checkbox"/> SLAMS FRM & TEOM <input type="checkbox"/> N CORE <input type="checkbox"/> SPM <input type="checkbox"/> NONREGULATORY <input checked="" type="checkbox"/> SUPPLEMENTAL SPECIATION SASS & URG
Probe inlet height (from ground) <input type="checkbox"/> < 2 m <input checked="" type="checkbox"/> 2-7m <input type="checkbox"/> 7-15 m <input type="checkbox"/> > 15 m Actual measured distance from probe inlet to ground (meters) <u>2.4 m</u>			
Distance of inlet from horizontal (wall) and/or vertical (platform or roof) supporting structure > 2 m? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>			
Distance between inlets of any low volume monitor and any other low volume monitor at the site - 1 m or greater?			Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>
Distance between all low volume monitor inlets and any Hi-Volume PM-10 or TSP inlet = 2 m or greater?			Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input checked="" type="checkbox"/>
Are collocated PM2.5 Monitors (Two FRMs, FRM & BAM, FRM & TEOM, BAM & TEOM) Located at Site?		*Yes <input checked="" type="checkbox"/> (answer *d questions) No <input type="checkbox"/> NA <input type="checkbox"/>	
*Distance between collocated PM 2.5 sampler inlets = 1 to 4 m?		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Give actual (meters) <u>3 m</u>	
*Are collocated PM2.5 sampler inlets within 1 m vertically of each other?		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Give actual (meters) _____	
Is an URG 3000 monitor collocated with a SASS monitor at the site? *Yes <input checked="" type="checkbox"/> (answer *d questions) No <input type="checkbox"/> NA <input type="checkbox"/>			
*Distance between collocated speciation sampler inlets - 1 to 4 m? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Give actual (meters) <u>3.3 m</u>			
*Are collocated speciation sampler inlets within 1 m vertically of each other? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Give actual (meters) <u>3.3 m</u>			
Is a low-volume PM10 monitor collocated with a PM2.5 monitor at the site to measure PM10-2.5?		*Yes <input type="checkbox"/> (answer *d questions) No <input type="checkbox"/> NA <input checked="" type="checkbox"/>	
*Distance between collocated PM10 and PM2.5 inlets for PM10-2.5 samplers - 1 to 4 m?		Yes <input type="checkbox"/> No <input type="checkbox"/>	
*Are collocated PM10 and PM2.5 sampler inlets within 1 m vertically of each other?		Yes <input type="checkbox"/> No <input type="checkbox"/>	
Is probe > 20 m from the nearest tree drip line? Yes <input checked="" type="checkbox"/> *No <input type="checkbox"/> (answer *d questions)			
*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes <input type="checkbox"/> *No <input type="checkbox"/>			
*Distance from probe to tree (m) _____ Direction from probe to tree _____			
*Height of tree (m) _____			
Are there any obstacles to air flow? *Yes <input type="checkbox"/> (answer *d questions) No <input checked="" type="checkbox"/>			
*Identify obstacle _____ Distance from probe inlet (m) _____ Direction from probe inlet to obstacle _____			
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes <input type="checkbox"/> No <input type="checkbox"/>			
Distance of probe to nearest traffic lane (m) <u>30</u> Direction from probe to nearest traffic lane <u>E</u>			

RECOMMENDATIONS:

- 1) Maintain current site status? Yes *No (answer *d questions)
- *2) Change monitoring objective? Yes (enter new objective _____) No
- *3) Change scale of representativeness? Yes (enter new scale _____) No
- *4) Relocate site? Yes No

Comments:

Reviewer Chengqing Xiao Date December 15, 2011

Ambient Monitoring Coordinator Chengqing Xiao Date December 15, 2011

Revised 2012-05-02

Site Review Form Calendar Year 2011

Site Information

Region <u>WSRO</u>		Site Name <u>Coffax</u>		AQS Site # <u>37- 081 - 0014</u>	
Street Address <u>2127 Sandy Ridge Road</u>				City <u>Coffax, NC 27235</u>	
Urban Area <u>HIGH POINT</u>			Core-based Statistical Area <u>Greensboro-High Point, NC</u>		
Enter Exact					
Longitude <u>-80.006944</u>		Latitude <u>36.06944</u>		Method of Measuring	
In Decimal Degrees		In Decimal Degrees		GPS	Explanation: _____
Elevation Above/below Mean Sea Level (in meters) <u>290</u>					
Name of nearest road to inlet probe <u>Sandy Ridge Road</u> ADT <u>9500</u> Year <u>2009</u>					
Comments: <u>"Traffic Volume (AADT) Maps Urban --- Greensboro, 2009"</u>					
Distance of site to nearest major road (m) _____ Direction from site to nearest major road _____					
Name of nearest major road _____ ADT _____ Year _____					
Comments: _____					
Site located near electrical substation/high voltage power lines?					Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Distance of site to nearest railroad track			(m) _____	Direction to RR _____ <input checked="" type="checkbox"/> NA	
Distance of site to nearest power pole w/transformer			(m) _____	Direction _____	
Distance between site and drip line of water tower (m) _____			Direction from site to water tower _____ <input checked="" type="checkbox"/> NA		
Explain any sources of potential bias; include cultivated fields, loose bulk storage, stacks, vents, railroad tracks, construction activities, fast food restaurants, and swimming pools. _____					

ANSWER ALL APPLICABLE QUESTIONS:

Parameters	Monitoring Objective	Scale	Site Type
<input checked="" type="checkbox"/> NA <input type="checkbox"/> SO ₂ (NAAQS) <input type="checkbox"/> SO ₂ (trace-level) <input type="checkbox"/> NO _x (NAAQS) <input type="checkbox"/> HSN _o _y <input type="checkbox"/> O ₃ <input type="checkbox"/> NH ₃ <input type="checkbox"/> Hydrocarbon <input type="checkbox"/> Air Toxics <input type="checkbox"/> HSCO (Not Micro) <input type="checkbox"/> CO (trace-level)	<input type="checkbox"/> General/Background _____ <input type="checkbox"/> Highest Concentration _____ <input type="checkbox"/> Max O ₃ Concentration _____ <input type="checkbox"/> Population Exposure _____ <input type="checkbox"/> Source Oriented _____ <input type="checkbox"/> Transport _____ <input type="checkbox"/> Upwind Background _____ <input type="checkbox"/> Welfare Related Impacts _____	<input type="checkbox"/> Micro _____ <input type="checkbox"/> Middle _____ <input type="checkbox"/> Neighborhood _____ <input type="checkbox"/> Urban _____ <input type="checkbox"/> Regional _____	<input type="checkbox"/> SLAMS _____ <input type="checkbox"/> NCORE _____ <input type="checkbox"/> SPM _____ <input type="checkbox"/> SPM/OPN _____ <input type="checkbox"/> NONREGULATORY _____
Probe inlet height (from ground) 2-15 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Give actual measured height from ground (meters) _____			
Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes <input type="checkbox"/> No <input type="checkbox"/>			
Actual measured distance from probe to supporting structure (meters) _____			
Distance of probe inlet from other monitoring probe inlets > 1 m? Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>			
Is probe > 20 m from the nearest tree drip line? Yes <input type="checkbox"/> *No <input type="checkbox"/> (answer *'d questions)			
*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes <input type="checkbox"/> *No <input type="checkbox"/>			
*Distance from probe to tree (m) _____ Direction from probe to tree _____			
*Height of tree (m) _____			
Are there any obstacles to air flow? *Yes <input type="checkbox"/> (answer *'d questions) No <input type="checkbox"/>			
*Identify obstacle _____ Distance from probe inlet (m) _____ Direction from probe inlet to obstacle _____			
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes <input type="checkbox"/> No <input type="checkbox"/>			
Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane _____			

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Parameters	Monitoring Objective	Scale	Site Type
<input checked="" type="checkbox"/> NA <input type="checkbox"/> CO (Micro Only)	<input type="checkbox"/> Highest Concentration _____ <input type="checkbox"/> Population Exposure _____ <input type="checkbox"/> Source Oriented _____ <input type="checkbox"/> Transport _____ <input type="checkbox"/> Welfare Related Impacts _____	<input type="checkbox"/> Micro _____	<input type="checkbox"/> SLAMS _____ <input type="checkbox"/> SPM _____ <input type="checkbox"/> SPM/OPN _____ <input type="checkbox"/> NONREGULATORY
Probe inlet height (from ground) 2.5 - 3.5 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Actual measured distance from probe inlet to ground (meters) _____			
Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Actual measured distance from probe to supporting structure (meters) _____			
Distance of probe inlet to nearest intersection > 10 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Distance of probe inlet to nearest traffic lane 2 - 10 m? Yes <input type="checkbox"/> No <input type="checkbox"/>			
Is probe > 20 m from the nearest tree drip line? Yes <input type="checkbox"/> *No <input type="checkbox"/> (answer *'d questions)			
*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes <input type="checkbox"/> *No <input type="checkbox"/>			
*Distance from probe to tree (m) _____ Direction from probe to tree _____			
*Height of tree (m) _____			
Are there any obstacles to air flow? *Yes <input type="checkbox"/> (answer *'d questions) No <input type="checkbox"/>			
*Identify obstacle _____ Distance from probe inlet (m) _____ Direction from probe inlet to obstacle _____			
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes <input type="checkbox"/> No <input type="checkbox"/>			
Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane _____			

Parameters	Monitoring Objective	Scale	Site Type
<input checked="" type="checkbox"/> NA <input type="checkbox"/> NO _y (trace-level)	<input type="checkbox"/> General/Background _____ <input type="checkbox"/> Highest Concentration _____ <input type="checkbox"/> Max O ₃ Concentration _____ <input type="checkbox"/> Population Exposure _____ <input type="checkbox"/> Source Oriented _____ <input type="checkbox"/> Transport _____ <input type="checkbox"/> Upwind Background _____ <input type="checkbox"/> Welfare Related Impacts _____	<input type="checkbox"/> Micro _____ <input type="checkbox"/> Middle _____ <input type="checkbox"/> Neighborhood _____ <input type="checkbox"/> Urban _____ <input type="checkbox"/> Regional _____	<input type="checkbox"/> SLAMS _____ <input type="checkbox"/> NCORE _____ <input type="checkbox"/> SPM _____ <input type="checkbox"/> SPM/OPN _____ <input type="checkbox"/> NONREGULATORY
Probe inlet height (from ground) 10-15 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Actual measured distance from probe inlet to ground (meters) _____			
Distance of probe inlet from horizontal and/or vertical supporting structure > 1 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Actual measured distance from probe to supporting structure (meters) _____			
Distance of probe inlet from other monitoring probe inlets > 1 m? Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>			
Is probe > 20 m from the nearest tree drip line? Yes <input type="checkbox"/> *No <input type="checkbox"/> (answer *'d questions)			
*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes <input type="checkbox"/> *No <input type="checkbox"/>			
*Distance from probe to tree (m) _____ Direction from probe to tree _____			
*Height of tree (m) _____			
Are there any obstacles to air flow? *Yes <input type="checkbox"/> (answer *'d questions) No <input type="checkbox"/>			
*Identify obstacle _____ Distance from probe inlet (m) _____ Direction from probe inlet to obstacle _____			
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes <input type="checkbox"/> No <input type="checkbox"/>			
Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane _____			

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Parameters	Monitoring Objective	Scale	Site Type
<input checked="" type="checkbox"/> NA <input type="checkbox"/> NO ₂ (Near Road only) <input type="checkbox"/> CO (Near Road only)	<input type="checkbox"/> Highest Concentration _____ <input type="checkbox"/> Population Exposure _____ <input type="checkbox"/> Source Oriented _____ <input type="checkbox"/> Transport _____ <input type="checkbox"/> Welfare Related Impacts _____	<input type="checkbox"/> Micro _____	<input type="checkbox"/> SLAMS _____ <input type="checkbox"/> SPM _____ <input type="checkbox"/> NONREGULATORY _____
Probe inlet height (from ground) 2-15 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Give actual measured height from ground (meters) _____ Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Actual measured distance from probe to supporting structure (meters) _____ Distance of probe inlet from other monitoring probe inlets > 1 m? Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>			
Is probe > 20 m from the nearest tree drip line? Yes <input type="checkbox"/> *No <input type="checkbox"/> (answer *'d questions) *Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes <input type="checkbox"/> *No <input type="checkbox"/> *Distance from probe to tree (m) _____ Direction from probe to tree _____ *Height of tree (m) _____			
Are there any obstacles to air flow? *Yes <input type="checkbox"/> (answer *'d questions) No <input type="checkbox"/> *Identify obstacle _____ Distance from probe inlet (m) _____ Direction from probe inlet to obstacle _____ *Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes <input type="checkbox"/> No <input type="checkbox"/> Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane _____			

Parameters	Monitoring Objective	Scale	Site Type
<input checked="" type="checkbox"/> NA Air flow > 200 L/min <input type="checkbox"/> PM10 <input type="checkbox"/> TSP <input type="checkbox"/> Pb	<input type="checkbox"/> Highest Concentration _____ <input type="checkbox"/> Population Exposure _____ <input type="checkbox"/> Source Oriented _____ <input type="checkbox"/> Background _____ <input type="checkbox"/> Transport _____ <input type="checkbox"/> Welfare Related Impacts _____	<input type="checkbox"/> Micro _____ <input type="checkbox"/> Middle _____ <input type="checkbox"/> Neighborhood _____ <input type="checkbox"/> Urban _____ <input type="checkbox"/> Regional _____	<input type="checkbox"/> SLAMS _____ <input type="checkbox"/> NCORE _____ <input type="checkbox"/> SPM _____ <input type="checkbox"/> NONREGULATORY _____
Probe inlet height (from ground) <input type="checkbox"/> < 2 m _____ <input type="checkbox"/> 2-7m _____ <input type="checkbox"/> 7-15 m _____ <input type="checkbox"/> > 15 m _____ Actual measured distance from probe inlet to ground (meters) _____ ----- Distance of inlet from horizontal (wall) and/or vertical (platform or roof) supporting structure > 2 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Actual measured distance from probe to supporting structure (meters) _____ ----- Distance between collocated PM-10, TSP or Pb sampler inlets = 2 to 4 m? Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/> Actual measured distance between collocated probes (meters) _____ Distance between any high volume inlet and any other high or low volume inlet ≥ 2 m? Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>			
Is probe > 20 m from the nearest tree drip line? Yes <input type="checkbox"/> *No <input type="checkbox"/> (answer *'d questions) *Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes <input type="checkbox"/> *No <input type="checkbox"/> *Distance from probe to tree (m) _____ Direction from probe to tree _____ *Height of tree (m) _____			
Are there any obstacles to air flow? *Yes <input type="checkbox"/> (answer *'d questions) No <input type="checkbox"/> *Identify obstacle _____ Distance from probe inlet (m) _____ Direction from probe inlet to obstacle _____ *Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes <input type="checkbox"/> No <input type="checkbox"/> Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane _____			

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Parameters	Monitoring Objective	Scale	Site Type
<input type="checkbox"/> NA Air flow < 200 L/min <input checked="" type="checkbox"/> PM2.5 <input type="checkbox"/> PM10 <input type="checkbox"/> PM10-2.5 <input type="checkbox"/> PM10 Lead (PB) <input type="checkbox"/> PM2.5 Cont. (TEOM) <input type="checkbox"/> PM2.5 Cont. (BAM) <input type="checkbox"/> PM2.5 Spec. (SASS) <input type="checkbox"/> PM2.5 Spec. (URG) <input type="checkbox"/> PM2.5 Cont. Spec.	<input type="checkbox"/> General/Background <input type="checkbox"/> Highest Concentration <input checked="" type="checkbox"/> Population Exposure <input type="checkbox"/> Source Oriented <input type="checkbox"/> Transport <input type="checkbox"/> Upwind Background <input type="checkbox"/> Welfare Related Impacts	<input type="checkbox"/> Micro <input type="checkbox"/> Middle <input type="checkbox"/> Neighborhood <input checked="" type="checkbox"/> Urban <input type="checkbox"/> Regional	<input checked="" type="checkbox"/> SLAMS <input type="checkbox"/> N CORE <input type="checkbox"/> SPM <input type="checkbox"/> NONREGULATORY
Probe inlet height (from ground) <input type="checkbox"/> < 2 m <input checked="" type="checkbox"/> 2-7m <input type="checkbox"/> 7-15 m <input type="checkbox"/> > 15 m Actual measured distance from probe inlet to ground (meters) <u>2.4</u>			
Distance of inlet from horizontal (wall) and/or vertical (platform or roof) supporting structure > 2 m? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>			
Distance between inlets of any low volume monitor and any other low volume monitor at the site - 1 m or greater?			Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input checked="" type="checkbox"/>
Distance between all low volume monitor inlets and any Hi-Volume PM-10 or TSP inlet = 2 m or greater?			Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input checked="" type="checkbox"/>
Are collocated PM2.5 Monitors (Two FRMs, FRM & BAM, FRM & TEOM, BAM & TEOM) Located at Site?		*Yes <input type="checkbox"/> (answer *d questions) No <input type="checkbox"/> NA <input checked="" type="checkbox"/>	
*Distance between collocated PM 2.5 sampler inlets = 1 to 4 m?		Yes <input type="checkbox"/> No <input type="checkbox"/> Give actual (meters) _____	
*Are collocated PM2.5 sampler inlets within 1 m vertically of each other?		Yes <input type="checkbox"/> No <input type="checkbox"/> Give actual (meters) _____	
Is an URG 3000 monitor collocated with a SASS monitor at the site? *Yes <input type="checkbox"/> (answer *d questions) No <input type="checkbox"/> NA <input checked="" type="checkbox"/>			
*Distance between collocated speciation sampler inlets - 1 to 4 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Give actual (meters) _____			
*Are collocated speciation sampler inlets within 1 m vertically of each other? Yes <input type="checkbox"/> No <input type="checkbox"/> Give actual (meters) _____			
Is a low-volume PM10 monitor collocated with a PM2.5 monitor at the site to measure PM10-2.5? *Yes <input type="checkbox"/> (answer *d questions) No <input type="checkbox"/> NA <input checked="" type="checkbox"/>			
*Distance between collocated PM10 and PM2.5 inlets for PM10-2.5 samplers - 1 to 4 m? Yes <input type="checkbox"/> No <input type="checkbox"/>			
*Are collocated PM10 and PM2.5 sampler inlets within 1 m vertically of each other? Yes <input type="checkbox"/> No <input type="checkbox"/>			
Is probe > 20 m from the nearest tree drip line? Yes <input type="checkbox"/> *No <input checked="" type="checkbox"/> (answer *d questions)			
*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes <input type="checkbox"/> *No <input checked="" type="checkbox"/>			
*Distance from probe to tree (m) <u>7.62</u> Direction from probe to tree <u>N</u>			
*Height of tree (m) <u>9.1</u>			
Are there any obstacles to air flow? *Yes <input type="checkbox"/> (answer *d questions) No <input checked="" type="checkbox"/>			
*Identify obstacle _____ Distance from probe inlet (m) _____ Direction from probe inlet to obstacle _____			
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes <input type="checkbox"/> No <input type="checkbox"/>			
Distance of probe to nearest traffic lane (m) <u>200</u> Direction from probe to nearest traffic lane <u>E</u>			

RECOMMENDATIONS:

- 1) Maintain current site status? Yes *No (answer *d questions)
- *2) Change monitoring objective? Yes (enter new objective _____) No
- *3) Change scale of representativeness? Yes (enter new scale _____) No
- *4) Relocate site? Yes No

Comments:

Reviewer Chengqing Xiao Date January 13, 2012

Ambient Monitoring Coordinator Chengqing Xiao Date January 13, 2012

Revised 2012-03-06

Site Review Form Calendar Year 2011

Site Information

Region <u>WSRO</u>		Site Name <u>Mendenhall</u>		AQS Site # <u>37- 081 - 0013</u>	
Street Address <u>205 Wiloughby St.</u>				City <u>Greensboro, NC 27408</u>	
Urban Area <u>GREENSBORO</u>			Core-based Statistical Area <u>Greensboro-High Point, NC</u>		
Enter Exact					
Longitude <u>-79.801111</u>		Latitude <u>36.109167</u>		Method of Measuring	
In Decimal Degrees		In Decimal Degrees		GPS	Explanation: _____
Elevation Above/below Mean Sea Level (in meters)					<u>247</u>
Name of nearest road to inlet probe <u>Saint Regis Rd.</u> ADT <u>1000</u> Year <u>estimated</u>					
Comments: <u>An estimated ADT number from previous year</u>					
Distance of site to nearest major road (m) <u>800.00</u> Direction from site to nearest major road <u>S</u>					
Name of nearest major road <u>W. Cone Blvd.</u> ADT <u>19000</u> Year <u>2009</u>					
Comments: <u>"Traffic Volume (AADT) Maps Urban -- Greensboro 2009"</u>					
Site located near electrical substation/high voltage power lines?					Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Distance of site to nearest railroad track			(m) _____	Direction to RR <u> </u> <input checked="" type="checkbox"/> NA	
Distance of site to nearest power pole w/transformer			(m) _____	Direction <u> </u>	
Distance between site and drip line of water tower (m) _____			Direction from site to water tower <u> </u> <input checked="" type="checkbox"/> NA		
Explain any sources of potential bias; include cultivated fields, loose bulk storage, stacks, vents, railroad tracks, construction activities, fast food restaurants, and swimming pools. _____					

ANSWER ALL APPLICABLE QUESTIONS:

Parameters	Monitoring Objective	Scale	Site Type
<input type="checkbox"/> NA <input type="checkbox"/> SO ₂ (NAAQS) <input type="checkbox"/> SO ₂ (trace-level) <input type="checkbox"/> NO _x (NAAQS) <input type="checkbox"/> HSN _o _y <input checked="" type="checkbox"/> O ₃ <input type="checkbox"/> NH ₃ <input type="checkbox"/> Hydrocarbon <input type="checkbox"/> Air Toxics <input type="checkbox"/> HSCO (Not Micro) <input type="checkbox"/> CO (trace-level)	<input checked="" type="checkbox"/> General/Background _____ <input type="checkbox"/> Highest Concentration _____ <input type="checkbox"/> Max O ₃ Concentration _____ <input checked="" type="checkbox"/> Population Exposure _____ <input type="checkbox"/> Source Oriented _____ <input type="checkbox"/> Transport _____ <input type="checkbox"/> Upwind Background _____ <input type="checkbox"/> Welfare Related Impacts _____	<input type="checkbox"/> Micro _____ <input type="checkbox"/> Middle _____ <input type="checkbox"/> Neighborhood _____ <input checked="" type="checkbox"/> Urban _____ <input type="checkbox"/> Regional _____	<input checked="" type="checkbox"/> SLAMS _____ <input type="checkbox"/> NCORE _____ <input type="checkbox"/> SPM _____ <input type="checkbox"/> SPM/OPN _____ <input type="checkbox"/> NONREGULATORY _____
Probe inlet height (from ground) 2-15 m? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Give actual measured height from ground (meters) <u>3 m</u>			
Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>			
Actual measured distance from probe to supporting structure (meters) <u>0.5 m</u>			
Distance of probe inlet from other monitoring probe inlets > 1 m? Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input checked="" type="checkbox"/>			
Is probe > 20 m from the nearest tree drip line? Yes <input checked="" type="checkbox"/> *No <input type="checkbox"/> (answer *d questions)			
*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes <input type="checkbox"/> *No <input type="checkbox"/>			
*Distance from probe to tree (m) _____ Direction from probe to tree <u> </u>			
*Height of tree (m) _____			
Are there any obstacles to air flow? *Yes <input type="checkbox"/> (answer *d questions) No <input checked="" type="checkbox"/>			
*Identify obstacle <u> </u> Distance from probe inlet (m) _____ Direction from probe inlet to obstacle <u> </u>			
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>			
Distance of probe to nearest traffic lane (m) <u>134</u> Direction from probe to nearest traffic lane <u>NNW</u>			

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Parameters	Monitoring Objective	Scale	Site Type
<input checked="" type="checkbox"/> NA <input type="checkbox"/> CO (Micro Only)	<input type="checkbox"/> Highest Concentration _____ <input type="checkbox"/> Population Exposure _____ <input type="checkbox"/> Source Oriented _____ <input type="checkbox"/> Transport _____ <input type="checkbox"/> Welfare Related Impacts _____	<input type="checkbox"/> Micro _____	<input type="checkbox"/> SLAMS _____ <input type="checkbox"/> SPM _____ <input type="checkbox"/> SPM/OPN _____ <input type="checkbox"/> NONREGULATORY
Probe inlet height (from ground) 2.5 - 3.5 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Actual measured distance from probe inlet to ground (meters) _____			
Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Actual measured distance from probe to supporting structure (meters) _____			
Distance of probe inlet to nearest intersection > 10 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Distance of probe inlet to nearest traffic lane 2 - 10 m? Yes <input type="checkbox"/> No <input type="checkbox"/>			
Is probe > 20 m from the nearest tree drip line? Yes <input type="checkbox"/> *No <input type="checkbox"/> (answer *'d questions)			
*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes <input type="checkbox"/> *No <input type="checkbox"/>			
*Distance from probe to tree (m) _____ Direction from probe to tree _____			
*Height of tree (m) _____			
Are there any obstacles to air flow? *Yes <input type="checkbox"/> (answer *'d questions) No <input type="checkbox"/>			
*Identify obstacle _____ Distance from probe inlet (m) _____ Direction from probe inlet to obstacle _____			
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes <input type="checkbox"/> No <input type="checkbox"/>			
Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane _____			

Parameters	Monitoring Objective	Scale	Site Type
<input checked="" type="checkbox"/> NA <input type="checkbox"/> NO _y (trace-level)	<input type="checkbox"/> General/Background _____ <input type="checkbox"/> Highest Concentration _____ <input type="checkbox"/> Max O ₃ Concentration _____ <input type="checkbox"/> Population Exposure _____ <input type="checkbox"/> Source Oriented _____ <input type="checkbox"/> Transport _____ <input type="checkbox"/> Upwind Background _____ <input type="checkbox"/> Welfare Related Impacts _____	<input type="checkbox"/> Micro _____ <input type="checkbox"/> Middle _____ <input type="checkbox"/> Neighborhood _____ <input type="checkbox"/> Urban _____ <input type="checkbox"/> Regional _____	<input type="checkbox"/> SLAMS _____ <input type="checkbox"/> NCORE _____ <input type="checkbox"/> SPM _____ <input type="checkbox"/> SPM/OPN _____ <input type="checkbox"/> NONREGULATORY
Probe inlet height (from ground) 10-15 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Actual measured distance from probe inlet to ground (meters) _____			
Distance of probe inlet from horizontal and/or vertical supporting structure > 1 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Actual measured distance from probe to supporting structure (meters) _____			
Distance of probe inlet from other monitoring probe inlets > 1 m? Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>			
Is probe > 20 m from the nearest tree drip line? Yes <input type="checkbox"/> *No <input type="checkbox"/> (answer *'d questions)			
*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes <input type="checkbox"/> *No <input type="checkbox"/>			
*Distance from probe to tree (m) _____ Direction from probe to tree _____			
*Height of tree (m) _____			
Are there any obstacles to air flow? *Yes <input type="checkbox"/> (answer *'d questions) No <input type="checkbox"/>			
*Identify obstacle _____ Distance from probe inlet (m) _____ Direction from probe inlet to obstacle _____			
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes <input type="checkbox"/> No <input type="checkbox"/>			
Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane _____			

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Parameters	Monitoring Objective	Scale	Site Type
<input checked="" type="checkbox"/> NA <input type="checkbox"/> NO ₂ (Near Road only) <input type="checkbox"/> CO (Near Road only)	<input type="checkbox"/> Highest Concentration _____ <input type="checkbox"/> Population Exposure _____ <input type="checkbox"/> Source Oriented _____ <input type="checkbox"/> Transport _____ <input type="checkbox"/> Welfare Related Impacts _____	<input type="checkbox"/> Micro _____	<input type="checkbox"/> SLAMS _____ <input type="checkbox"/> SPM _____ <input type="checkbox"/> NONREGULATORY _____
Probe inlet height (from ground) 2-15 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Give actual measured height from ground (meters) _____ Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Actual measured distance from probe to supporting structure (meters) _____ Distance of probe inlet from other monitoring probe inlets > 1 m? Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>			
Is probe > 20 m from the nearest tree drip line? Yes <input type="checkbox"/> *No <input type="checkbox"/> (answer *'d questions) *Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes <input type="checkbox"/> *No <input type="checkbox"/> *Distance from probe to tree (m) _____ Direction from probe to tree _____ *Height of tree (m) _____			
Are there any obstacles to air flow? *Yes <input type="checkbox"/> (answer *'d questions) No <input type="checkbox"/> *Identify obstacle _____ Distance from probe inlet (m) _____ Direction from probe inlet to obstacle _____ *Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes <input type="checkbox"/> No <input type="checkbox"/> Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane _____			

Parameters	Monitoring Objective	Scale	Site Type
<input type="checkbox"/> NA Air flow > 200 L/min <input checked="" type="checkbox"/> PM10 <input type="checkbox"/> TSP <input type="checkbox"/> Pb	<input type="checkbox"/> Highest Concentration _____ <input checked="" type="checkbox"/> Population Exposure _____ <input type="checkbox"/> Source Oriented _____ <input checked="" type="checkbox"/> Background _____ <input type="checkbox"/> Transport _____ <input type="checkbox"/> Welfare Related Impacts _____	<input type="checkbox"/> Micro _____ <input type="checkbox"/> Middle _____ <input type="checkbox"/> Neighborhood _____ <input checked="" type="checkbox"/> Urban _____ <input type="checkbox"/> Regional _____	<input checked="" type="checkbox"/> SLAMS _____ <input type="checkbox"/> NCORE _____ <input type="checkbox"/> SPM _____ <input type="checkbox"/> NONREGULATORY _____
Probe inlet height (from ground) <input type="checkbox"/> < 2 m _____ <input checked="" type="checkbox"/> 2-7m _____ <input type="checkbox"/> 7-15 m _____ <input type="checkbox"/> > 15 m _____ Actual measured distance from probe inlet to ground (meters) <u>2.4 m</u>			
Distance of inlet from horizontal (wall) and/or vertical (platform or roof) supporting structure > 2 m? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Actual measured distance from probe to supporting structure (meters) <u>2.2 m</u>			
Distance between collocated PM-10, TSP or Pb sampler inlets = 2 to 4 m? Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input checked="" type="checkbox"/> Actual measured distance between collocated probes (meters) _____ Distance between any high volume inlet and any other high or low volume inlet ≥ 2 m? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>			
Is probe > 20 m from the nearest tree drip line? Yes <input checked="" type="checkbox"/> *No <input type="checkbox"/> (answer *'d questions) *Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes <input type="checkbox"/> *No <input type="checkbox"/> *Distance from probe to tree (m) _____ Direction from probe to tree _____ *Height of tree (m) _____			
Are there any obstacles to air flow? *Yes <input type="checkbox"/> (answer *'d questions) No <input checked="" type="checkbox"/> *Identify obstacle _____ Distance from probe inlet (m) _____ Direction from probe inlet to obstacle _____ *Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes <input type="checkbox"/> No <input type="checkbox"/> Distance of probe to nearest traffic lane (m) <u>134</u> Direction from probe to nearest traffic lane <u>NNW</u>			

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Parameters	Monitoring Objective	Scale	Site Type
<input type="checkbox"/> NA Air flow < 200 L/min <input checked="" type="checkbox"/> PM2.5 <input type="checkbox"/> PM10 <input type="checkbox"/> PM10-2.5 <input type="checkbox"/> PM10 Lead (PB) <input checked="" type="checkbox"/> PM2.5 Cont. (TEOM) <input type="checkbox"/> PM2.5 Cont. (BAM) <input type="checkbox"/> PM2.5 Spec. (SASS) <input type="checkbox"/> PM2.5 Spec. (URG) <input type="checkbox"/> PM2.5 Cont. Spec.	<input checked="" type="checkbox"/> General/Background <input type="checkbox"/> Highest Concentration <input checked="" type="checkbox"/> Population Exposure <input type="checkbox"/> Source Oriented <input type="checkbox"/> Transport <input type="checkbox"/> Upwind Background <input type="checkbox"/> Welfare Related Impacts	<input type="checkbox"/> Micro <input type="checkbox"/> Middle <input checked="" type="checkbox"/> Neighborhood <input type="checkbox"/> Urban <input type="checkbox"/> Regional	<input checked="" type="checkbox"/> SLAMS <input type="checkbox"/> N CORE <input type="checkbox"/> SPM <input type="checkbox"/> NONREGULATORY
Probe inlet height (from ground) <input type="checkbox"/> < 2 m <input checked="" type="checkbox"/> 2-7m <input type="checkbox"/> 7-15 m <input type="checkbox"/> > 15 m Actual measured distance from probe inlet to ground (meters) <u>2.4 m</u>			
Distance of inlet from horizontal (wall) and/or vertical (platform or roof) supporting structure > 2 m? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>			
Distance between inlets of any low volume monitor and any other low volume monitor at the site - 1 m or greater?			Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input checked="" type="checkbox"/>
Distance between all low volume monitor inlets and any Hi-Volume PM-10 or TSP inlet = 2 m or greater?			Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>
Are collocated PM2.5 Monitors (Two FRMs, FRM & BAM, FRM & TEOM, BAM & TEOM) Located at Site?		*Yes <input checked="" type="checkbox"/> (answer *d questions) No <input type="checkbox"/> NA <input type="checkbox"/>	
*Distance between collocated PM 2.5 sampler inlets = 1 to 4 m?		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Give actual (meters) <u>> 4 m</u>	
*Are collocated PM2.5 sampler inlets within 1 m vertically of each other?		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Give actual (meters) <u>> 4 m</u>	
Is an URG 3000 monitor collocated with a SASS monitor at the site? *Yes <input type="checkbox"/> (answer *d questions) No <input type="checkbox"/> NA <input checked="" type="checkbox"/>			
*Distance between collocated speciation sampler inlets - 1 to 4 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Give actual (meters) _____			
*Are collocated speciation sampler inlets within 1 m vertically of each other? Yes <input type="checkbox"/> No <input type="checkbox"/> Give actual (meters) _____			
Is a low-volume PM10 monitor collocated with a PM2.5 monitor at the site to measure PM10-2.5? *Yes <input type="checkbox"/> (answer *d questions) No <input type="checkbox"/> NA <input checked="" type="checkbox"/>			
*Distance between collocated PM10 and PM2.5 inlets for PM10-2.5 samplers - 1 to 4 m? Yes <input type="checkbox"/> No <input type="checkbox"/>			
*Are collocated PM10 and PM2.5 sampler inlets within 1 m vertically of each other? Yes <input type="checkbox"/> No <input type="checkbox"/>			
Is probe > 20 m from the nearest tree drip line? Yes <input checked="" type="checkbox"/> *No <input type="checkbox"/> (answer *d questions)			
*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes <input type="checkbox"/> *No <input type="checkbox"/>			
*Distance from probe to tree (m) _____ Direction from probe to tree _____			
*Height of tree (m) _____			
Are there any obstacles to air flow? *Yes <input type="checkbox"/> (answer *d questions) No <input checked="" type="checkbox"/>			
*Identify obstacle _____ Distance from probe inlet (m) _____ Direction from probe inlet to obstacle _____			
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes <input type="checkbox"/> No <input type="checkbox"/>			
Distance of probe to nearest traffic lane (m) <u>134</u> Direction from probe to nearest traffic lane <u>NNW</u>			

RECOMMENDATIONS:

- 1) Maintain current site status? Yes *No (answer *d questions)
- *2) Change monitoring objective? Yes (enter new objective _____) No
- *3) Change scale of representativeness? Yes (enter new scale _____) No
- *4) Relocate site? Yes No

Comments:

Reviewer Chengqing Xiao Date January 18, 2012

Ambient Monitoring Coordinator Chengqing Xiao Date 01/18/2012

Revised 2012-03-06

Site Review Form Calendar Year 2011

Site Information

Region <u>WSRO</u>	Site Name <u>Bethany</u>	AQS Site # <u>37-157-0099</u>
Street Address <u>6371 NC 65</u>		City <u>Reidsville, NC 27320</u>
Urban Area <u>ROCKINGHAM</u>	Core-based Statistical Area <u>Rockingham, NC</u>	
Enter Exact		
Longitude <u>-79.85861</u>	Latitude <u>36.30889</u>	Method of Measuring
<small>In Decimal Degrees</small>	<small>In Decimal Degrees</small>	GPS <input type="checkbox"/> Explanation: _____
Elevation Above/below Mean Sea Level (in meters)		<u>274</u>
Name of nearest road to inlet probe <u>SR 2316</u> ADT <u>200</u> Year <u>estimated</u>		
Comments: <u>An estimated ADT number from previous year</u>		
Distance of site to nearest major road (m) <u>200.00</u> Direction from site to nearest major road <u>S</u>		
Name of nearest major road <u>NC 65</u> ADT <u>2000</u> Year <u>2010</u>		
Comments: <u>ADT # from "Traffic Volume (AADT) Maps 2010-- Rockingham County"</u>		
Site located near electrical substation/high voltage power lines?		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Distance of site to nearest railroad track	(m) _____	Direction to RR <u>NA</u> <input checked="" type="checkbox"/>
Distance of site to nearest power pole w/transformer	(m) _____	Direction _____
Distance between site and drip line of water tower (m)	Direction from site to water tower _____	<input checked="" type="checkbox"/> NA
Explain any sources of potential bias; include cultivated fields, loose bulk storage, stacks, vents, railroad tracks, construction activities, fast food restaurants, and swimming pools. _____		

ANSWER ALL APPLICABLE QUESTIONS

Parameters	Monitoring Objective	Scale	Site Type
<input type="checkbox"/> NA <input checked="" type="checkbox"/> SO ₂ (NAAQS) <input type="checkbox"/> SO ₂ (trace-level) <input type="checkbox"/> NO _x (NAAQS) <input type="checkbox"/> H ₂ SO ₄ <input checked="" type="checkbox"/> O ₃ <input type="checkbox"/> NH ₃ <input type="checkbox"/> Hydrocarbon <input type="checkbox"/> Air Toxics <input type="checkbox"/> H ₂ CO (Not Micro) <input type="checkbox"/> CO (trace-level)	<input checked="" type="checkbox"/> General/Background <u>SO₂</u> <input type="checkbox"/> Highest Concentration _____ <input type="checkbox"/> Max O ₃ Concentration _____ <input checked="" type="checkbox"/> Population Exposure <u>O₃</u> <input type="checkbox"/> Source Oriented _____ <input checked="" type="checkbox"/> Transport <u>O₃</u> <input type="checkbox"/> Upwind Background _____ <input checked="" type="checkbox"/> Welfare Related Impacts <u>O₃</u>	<input type="checkbox"/> Micro _____ <input type="checkbox"/> Middle _____ <input type="checkbox"/> Neighborhood _____ <input checked="" type="checkbox"/> Urban _____ <input type="checkbox"/> Regional _____	<input checked="" type="checkbox"/> SLAMS <u>O₃</u> <input type="checkbox"/> NCORE _____ <input checked="" type="checkbox"/> SPM <u>SO₂</u> <input type="checkbox"/> SPM/OPN _____ <input type="checkbox"/> NONREGULATORY _____
Probe inlet height (from ground) 2-15 m? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Give actual measured height from ground (meters) <u>3 m</u>			
Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>			
Actual measured distance from probe to supporting structure (meters) <u>0.5 m</u>			
Distance of probe inlet from other monitoring probe inlets > 1 m? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>			
Is probe > 20 m from the nearest tree drip line? Yes <input checked="" type="checkbox"/> *No <input type="checkbox"/> (answer *d questions)			
*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes <input type="checkbox"/> *No <input type="checkbox"/>			
*Distance from probe to tree (m) _____ Direction from probe to tree _____			
*Height of tree (m) _____			
Are there any obstacles to air flow? *Yes <input type="checkbox"/> (answer *d questions) No <input checked="" type="checkbox"/>			
*Identify obstacle _____ Distance from probe inlet (m) _____ Direction from probe inlet to obstacle _____			
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes <input type="checkbox"/> No <input type="checkbox"/>			
Distance of probe to nearest traffic lane (m) <u>15</u> Direction from probe to nearest traffic lane <u>W</u>			

Site Review Form Calendar Year 2011

Parameters	Monitoring Objective	Scale	Site Type
<input checked="" type="checkbox"/> NA <input type="checkbox"/> CO (Micro Only)	<input type="checkbox"/> Highest Concentration _____ <input type="checkbox"/> Population Exposure _____ <input type="checkbox"/> Source Oriented _____ <input type="checkbox"/> Transport _____ <input type="checkbox"/> Welfare Related Impacts _____	<input type="checkbox"/> Micro _____	<input type="checkbox"/> SLAMS _____ <input type="checkbox"/> SPM _____ <input type="checkbox"/> SPM/OPN _____ <input type="checkbox"/> NONREGULATORY
Probe inlet height (from ground) 2.5 - 3.5 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Actual measured distance from probe inlet to ground (meters) _____			
Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Actual measured distance from probe to supporting structure (meters) _____			
Distance of probe inlet to nearest intersection > 10 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Distance of probe inlet to nearest traffic lane 2 - 10 m? Yes <input type="checkbox"/> No <input type="checkbox"/>			
Is probe > 20 m from the nearest tree drip line? Yes <input type="checkbox"/> *No <input type="checkbox"/> (answer *'d questions)			
*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes <input type="checkbox"/> *No <input type="checkbox"/>			
*Distance from probe to tree (m) _____ Direction from probe to tree ____			
*Height of tree (m) _____			
Are there any obstacles to air flow? *Yes <input type="checkbox"/> (answer *'d questions) No <input type="checkbox"/>			
*Identify obstacle ____ Distance from probe inlet (m) _____ Direction from probe inlet to obstacle ____			
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes <input type="checkbox"/> No <input type="checkbox"/>			
Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane ____			

Parameters	Monitoring Objective	Scale	Site Type
<input checked="" type="checkbox"/> NA <input type="checkbox"/> NO _y (trace-level)	<input type="checkbox"/> General/Background _____ <input type="checkbox"/> Highest Concentration _____ <input type="checkbox"/> Max O ₃ Concentration _____ <input type="checkbox"/> Population Exposure _____ <input type="checkbox"/> Source Oriented _____ <input type="checkbox"/> Transport _____ <input type="checkbox"/> Upwind Background _____ <input type="checkbox"/> Welfare Related Impacts _____	<input type="checkbox"/> Micro _____ <input type="checkbox"/> Middle _____ <input type="checkbox"/> Neighborhood _____ <input type="checkbox"/> Urban _____ <input type="checkbox"/> Regional _____	<input type="checkbox"/> SLAMS _____ <input type="checkbox"/> NCORE _____ <input type="checkbox"/> SPM _____ <input type="checkbox"/> SPM/OPN _____ <input type="checkbox"/> NONREGULATORY
Probe inlet height (from ground) 10-15 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Actual measured distance from probe inlet to ground (meters) _____			
Distance of probe inlet from horizontal and/or vertical supporting structure > 1 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Actual measured distance from probe to supporting structure (meters) _____			
Distance of probe inlet from other monitoring probe inlets > 1 m? Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>			
Is probe > 20 m from the nearest tree drip line? Yes <input type="checkbox"/> *No <input type="checkbox"/> (answer *'d questions)			
*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes <input type="checkbox"/> *No <input type="checkbox"/>			
*Distance from probe to tree (m) _____ Direction from probe to tree ____			
*Height of tree (m) _____			
Are there any obstacles to air flow? *Yes <input type="checkbox"/> (answer *'d questions) No <input type="checkbox"/>			
*Identify obstacle ____ Distance from probe inlet (m) _____ Direction from probe inlet to obstacle ____			
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes <input type="checkbox"/> No <input type="checkbox"/>			
Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane ____			

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Parameters	Monitoring Objective	Scale	Site Type
<input checked="" type="checkbox"/> NA <input type="checkbox"/> NO ₂ (Near Road only) <input type="checkbox"/> CO (Near Road only)	<input type="checkbox"/> Highest Concentration _____ <input type="checkbox"/> Population Exposure _____ <input type="checkbox"/> Source Oriented _____ <input type="checkbox"/> Transport _____ <input type="checkbox"/> Welfare Related Impacts _____	<input type="checkbox"/> Micro _____	<input type="checkbox"/> SLAMS _____ <input type="checkbox"/> SPM _____ <input type="checkbox"/> NONREGULATORY _____
Probe inlet height (from ground) 2-15 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Give actual measured height from ground (meters) _____ Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Actual measured distance from probe to supporting structure (meters) _____ Distance of probe inlet from other monitoring probe inlets > 1 m? Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>			
Is probe > 20 m from the nearest tree drip line? Yes <input type="checkbox"/> *No <input type="checkbox"/> (answer *'d questions) *Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes <input type="checkbox"/> *No <input type="checkbox"/> *Distance from probe to tree (m) _____ Direction from probe to tree _____ *Height of tree (m) _____			
Are there any obstacles to air flow? *Yes <input type="checkbox"/> (answer *'d questions) No <input type="checkbox"/> *Identify obstacle _____ Distance from probe inlet (m) _____ Direction from probe inlet to obstacle _____ *Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes <input type="checkbox"/> No <input type="checkbox"/> Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane _____			

Parameters	Monitoring Objective	Scale	Site Type
<input checked="" type="checkbox"/> NA Air flow > 200 L/min <input type="checkbox"/> PM10 <input type="checkbox"/> TSP <input type="checkbox"/> Pb	<input type="checkbox"/> Highest Concentration _____ <input type="checkbox"/> Population Exposure _____ <input type="checkbox"/> Source Oriented _____ <input type="checkbox"/> Background _____ <input type="checkbox"/> Transport _____ <input type="checkbox"/> Welfare Related Impacts _____	<input type="checkbox"/> Micro _____ <input type="checkbox"/> Middle _____ <input type="checkbox"/> Neighborhood _____ <input type="checkbox"/> Urban _____ <input type="checkbox"/> Regional _____	<input type="checkbox"/> SLAMS _____ <input type="checkbox"/> NCORE _____ <input type="checkbox"/> SPM _____ <input type="checkbox"/> NONREGULATORY _____
Probe inlet height (from ground) <input type="checkbox"/> < 2 m _____ <input type="checkbox"/> 2-7m _____ <input type="checkbox"/> 7-15 m _____ <input type="checkbox"/> > 15 m _____ Actual measured distance from probe inlet to ground (meters) _____ ----- Distance of inlet from horizontal (wall) and/or vertical (platform or roof) supporting structure > 2 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Actual measured distance from probe to supporting structure (meters) _____ ----- Distance between collocated PM-10, TSP or Pb sampler inlets = 2 to 4 m? Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/> Actual measured distance between collocated probes (meters) _____ Distance between any high volume inlet and any other high or low volume inlet ≥ 2 m? Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>			
Is probe > 20 m from the nearest tree drip line? Yes <input type="checkbox"/> *No <input type="checkbox"/> (answer *'d questions) *Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes <input type="checkbox"/> *No <input type="checkbox"/> *Distance from probe to tree (m) _____ Direction from probe to tree _____ *Height of tree (m) _____			
Are there any obstacles to air flow? *Yes <input type="checkbox"/> (answer *'d questions) No <input type="checkbox"/> *Identify obstacle _____ Distance from probe inlet (m) _____ Direction from probe inlet to obstacle _____ *Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes <input type="checkbox"/> No <input type="checkbox"/> Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane _____			

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Parameters	Monitoring Objective	Scale	Site Type
<input checked="" type="checkbox"/> NA Air flow < 200 L/min <input type="checkbox"/> PM2.5 <input type="checkbox"/> PM10 <input type="checkbox"/> PM10-2.5 <input type="checkbox"/> PM10 Lead (PB) <input type="checkbox"/> PM2.5 Cont. (TEOM) <input type="checkbox"/> PM2.5 Cont. (BAM) <input type="checkbox"/> PM2.5 Spec. (SASS) <input type="checkbox"/> PM2.5 Spec. (URG) <input type="checkbox"/> PM2.5 Cont. Spec.	<input type="checkbox"/> General/Background <input type="checkbox"/> Highest Concentration <input type="checkbox"/> Population Exposure <input type="checkbox"/> Source Oriented <input type="checkbox"/> Transport <input type="checkbox"/> Upwind Background <input type="checkbox"/> Welfare Related Impacts	<input type="checkbox"/> Micro <input type="checkbox"/> Middle <input type="checkbox"/> Neighborhood <input type="checkbox"/> Urban <input type="checkbox"/> Regional	<input type="checkbox"/> SLAMS <input type="checkbox"/> NCORE <input type="checkbox"/> SPM <input type="checkbox"/> NONREGULATORY
Probe inlet height (from ground) <input type="checkbox"/> < 2 m <input type="checkbox"/> 2-7m <input type="checkbox"/> 7-15 m <input type="checkbox"/> > 15 m Actual measured distance from probe inlet to ground (meters) _____			
Distance of inlet from horizontal (wall) and/or vertical (platform or roof) supporting structure > 2 m? Yes <input type="checkbox"/> No <input type="checkbox"/>			
Distance between inlets of any low volume monitor and any other low volume monitor at the site - 1 m or greater?			Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>
Distance between all low volume monitor inlets and any Hi-Volume PM-10 or TSP inlet = 2 m or greater?			Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>
Are collocated PM2.5 Monitors (Two FRMs, FRM & BAM, FRM & TEOM, BAM & TEOM) Located at Site?		*Yes <input type="checkbox"/> (answer *d questions) No <input type="checkbox"/> NA <input type="checkbox"/>	
*Distance between collocated PM 2.5 sampler inlets = 1 to 4 m?		Yes <input type="checkbox"/> No <input type="checkbox"/> Give actual (meters) _____	
*Are collocated PM2.5 sampler inlets within 1 m vertically of each other?		Yes <input type="checkbox"/> No <input type="checkbox"/> Give actual (meters) _____	
Is an URG 3000 monitor collocated with a SASS monitor at the site? *Yes <input type="checkbox"/> (answer *d questions) No <input type="checkbox"/> NA <input type="checkbox"/>			
*Distance between collocated speciation sampler inlets - 1 to 4 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Give actual (meters) _____			
*Are collocated speciation sampler inlets within 1 m vertically of each other? Yes <input type="checkbox"/> No <input type="checkbox"/> Give actual (meters) _____			
Is a low-volume PM10 monitor collocated with a PM2.5 monitor at the site to measure PM10-2.5? *Yes <input type="checkbox"/> (answer *d questions) No <input type="checkbox"/> NA <input type="checkbox"/>			
*Distance between collocated PM10 and PM2.5 inlets for PM10-2.5 samplers - 1 to 4 m? Yes <input type="checkbox"/> No <input type="checkbox"/>			
*Are collocated PM10 and PM2.5 sampler inlets within 1 m vertically of each other? Yes <input type="checkbox"/> No <input type="checkbox"/>			
Is probe > 20 m from the nearest tree drip line? Yes <input type="checkbox"/> *No <input type="checkbox"/> (answer *d questions)			
*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes <input type="checkbox"/> *No <input type="checkbox"/>			
*Distance from probe to tree (m) _____ Direction from probe to tree _____			
*Height of tree (m) _____			
Are there any obstacles to air flow? *Yes <input type="checkbox"/> (answer *d questions) No <input type="checkbox"/>			
*Identify obstacle _____ Distance from probe inlet (m) _____ Direction from probe inlet to obstacle _____			
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes <input type="checkbox"/> No <input type="checkbox"/>			
Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane _____			

RECOMMENDATIONS:

- 1) Maintain current site status? Yes *No (answer *d questions)
- *2) Change monitoring objective? Yes (enter new objective Population exposure, Transport, Welfare Related Impacts for O3) No
- *3) Change scale of representativeness? Yes (enter new scale _____) No
- *4) Relocate site? Yes No

Comments:

Reviewer Chengqing Xiao Date January 12, 2012

Ambient Monitoring Coordinator Chengqing Xiao Date January 12, 2012

Revised 2012-03-08

Site Review Form Calendar Year 2011

Site Information

Region <u>WSRO</u>	Site Name <u>Burlington</u>	AQS Site # <u>37- 001 - 0002</u>
Street Address <u>827 South Graham/Hopedale Rd.</u>		City <u>Burlington, NC 27217</u>
Urban Area <u>BURLINGTON</u>	Core-based Statistical Area <u>Burlington, NC</u>	
Enter Exact		
Longitude <u>-79.408333</u>	Latitude <u>36.088889</u>	Method of Measuring
In Decimal Degrees	In Decimal Degrees	
Elevation Above/below Mean Sea Level (in meters)		194
Name of nearest road to inlet probe <u>Cloverdale</u> ADT <u>500</u> Year estimated _____		
Comments: <u>An estimated ADT number from previous year</u>		
Distance of site to nearest major road (m) <u>100.00</u> Direction from site to nearest major road <u>E</u>		
Name of nearest major road <u>Hopedale/Graham Rd.</u> ADT <u>14000</u> Year <u>2009</u>		
Comments: <u>"Traffic Volume (AADT) Maps Uran -- Burlington 2009"</u>		
Site located near electrical substation/high voltage power lines?		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Distance of site to nearest railroad track	(m) _____	Direction to RR <u>NA</u> <input checked="" type="checkbox"/>
Distance of site to nearest power pole w/transformer	(m) _____	Direction _____
Distance between site and drip line of water tower (m) _____	Direction from site to water tower _____	<input checked="" type="checkbox"/> NA
Explain any sources of potential bias; include cultivated fields, loose bulk storage, stacks, vents, railroad tracks, construction activities, fast food restaurants, and swimming pools. _____		

ANSWER ALL APPLICABLE QUESTIONS:

Parameters	Monitoring Objective	Scale	Site Type
<input checked="" type="checkbox"/> NA <input type="checkbox"/> SO ₂ (NAAQS) <input type="checkbox"/> SO ₂ (trace-level) <input type="checkbox"/> NO _x (NAAQS) <input type="checkbox"/> HSN _o _y <input type="checkbox"/> O ₃ <input type="checkbox"/> NH ₃ <input type="checkbox"/> Hydrocarbon <input type="checkbox"/> Air Toxics <input type="checkbox"/> HSCO (Not Micro) <input type="checkbox"/> CO (trace-level)	<input type="checkbox"/> General/Background _____ <input type="checkbox"/> Highest Concentration _____ <input type="checkbox"/> Max O ₃ Concentration _____ <input type="checkbox"/> Population Exposure _____ <input type="checkbox"/> Source Oriented _____ <input type="checkbox"/> Transport _____ <input type="checkbox"/> Upwind Background _____ <input type="checkbox"/> Welfare Related Impacts _____	<input type="checkbox"/> Micro _____ <input type="checkbox"/> Middle _____ <input type="checkbox"/> Neighborhood _____ <input type="checkbox"/> Urban _____ <input type="checkbox"/> Regional _____	<input type="checkbox"/> SLAMS _____ <input type="checkbox"/> NCORE _____ <input type="checkbox"/> SPM _____ <input type="checkbox"/> SPM/OPN _____ <input type="checkbox"/> NONREGULATORY _____
Probe inlet height (from ground) 2-15 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Give actual measured height from ground (meters) _____			
Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes <input type="checkbox"/> No <input type="checkbox"/>			
Actual measured distance from probe to supporting structure (meters) _____			
Distance of probe inlet from other monitoring probe inlets > 1 m? Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>			
Is probe > 20 m from the nearest tree drip line? Yes <input type="checkbox"/> *No <input type="checkbox"/> (answer *d questions)			
*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes <input type="checkbox"/> *No <input type="checkbox"/>			
*Distance from probe to tree (m) _____ Direction from probe to tree _____			
*Height of tree (m) _____			
Are there any obstacles to air flow? *Yes <input type="checkbox"/> (answer *d questions) No <input type="checkbox"/>			
*Identify obstacle _____ Distance from probe inlet (m) _____ Direction from probe inlet to obstacle _____			
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes <input type="checkbox"/> No <input type="checkbox"/>			
Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane _____			

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Parameters	Monitoring Objective	Scale	Site Type
<input checked="" type="checkbox"/> NA <input type="checkbox"/> CO (Micro Only)	<input type="checkbox"/> Highest Concentration _____ <input type="checkbox"/> Population Exposure _____ <input type="checkbox"/> Source Oriented _____ <input type="checkbox"/> Transport _____ <input type="checkbox"/> Welfare Related Impacts _____	<input type="checkbox"/> Micro _____	<input type="checkbox"/> SLAMS _____ <input type="checkbox"/> SPM _____ <input type="checkbox"/> SPM/OPN _____ <input type="checkbox"/> NONREGULATORY
Probe inlet height (from ground) 2.5 - 3.5 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Actual measured distance from probe inlet to ground (meters) _____			
Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Actual measured distance from probe to supporting structure (meters) _____			
Distance of probe inlet to nearest intersection > 10 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Distance of probe inlet to nearest traffic lane 2 - 10 m? Yes <input type="checkbox"/> No <input type="checkbox"/>			
Is probe > 20 m from the nearest tree drip line? Yes <input type="checkbox"/> *No <input type="checkbox"/> (answer *'d questions)			
*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes <input type="checkbox"/> *No <input type="checkbox"/>			
*Distance from probe to tree (m) _____ Direction from probe to tree ____			
*Height of tree (m) _____			
Are there any obstacles to air flow? *Yes <input type="checkbox"/> (answer *'d questions) No <input type="checkbox"/>			
*Identify obstacle ____ Distance from probe inlet (m) _____ Direction from probe inlet to obstacle ____			
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes <input type="checkbox"/> No <input type="checkbox"/>			
Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane ____			

Parameters	Monitoring Objective	Scale	Site Type
<input checked="" type="checkbox"/> NA <input type="checkbox"/> NO _y (trace-level)	<input type="checkbox"/> General/Background _____ <input type="checkbox"/> Highest Concentration _____ <input type="checkbox"/> Max O ₃ Concentration _____ <input type="checkbox"/> Population Exposure _____ <input type="checkbox"/> Source Oriented _____ <input type="checkbox"/> Transport _____ <input type="checkbox"/> Upwind Background _____ <input type="checkbox"/> Welfare Related Impacts _____	<input type="checkbox"/> Micro _____ <input type="checkbox"/> Middle _____ <input type="checkbox"/> Neighborhood _____ <input type="checkbox"/> Urban _____ <input type="checkbox"/> Regional _____	<input type="checkbox"/> SLAMS _____ <input type="checkbox"/> NCORE _____ <input type="checkbox"/> SPM _____ <input type="checkbox"/> SPM/OPN _____ <input type="checkbox"/> NONREGULATORY
Probe inlet height (from ground) 10-15 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Actual measured distance from probe inlet to ground (meters) _____			
Distance of probe inlet from horizontal and/or vertical supporting structure > 1 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Actual measured distance from probe to supporting structure (meters) _____			
Distance of probe inlet from other monitoring probe inlets > 1 m? Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>			
Is probe > 20 m from the nearest tree drip line? Yes <input type="checkbox"/> *No <input type="checkbox"/> (answer *'d questions)			
*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes <input type="checkbox"/> *No <input type="checkbox"/>			
*Distance from probe to tree (m) _____ Direction from probe to tree ____			
*Height of tree (m) _____			
Are there any obstacles to air flow? *Yes <input type="checkbox"/> (answer *'d questions) No <input type="checkbox"/>			
*Identify obstacle ____ Distance from probe inlet (m) _____ Direction from probe inlet to obstacle ____			
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes <input type="checkbox"/> No <input type="checkbox"/>			
Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane ____			

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Parameters	Monitoring Objective	Scale	Site Type
<input checked="" type="checkbox"/> NA <input type="checkbox"/> NO ₂ (Near Road only) <input type="checkbox"/> CO (Near Road only)	<input type="checkbox"/> Highest Concentration _____ <input type="checkbox"/> Population Exposure _____ <input type="checkbox"/> Source Oriented _____ <input type="checkbox"/> Transport _____ <input type="checkbox"/> Welfare Related Impacts _____	<input type="checkbox"/> Micro _____	<input type="checkbox"/> SLAMS _____ <input type="checkbox"/> SPM _____ <input type="checkbox"/> NONREGULATORY _____
Probe inlet height (from ground) 2-15 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Give actual measured height from ground (meters) _____ Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Actual measured distance from probe to supporting structure (meters) _____ Distance of probe inlet from other monitoring probe inlets > 1 m? Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>			
Is probe > 20 m from the nearest tree drip line? Yes <input type="checkbox"/> *No <input type="checkbox"/> (answer *'d questions) *Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes <input type="checkbox"/> *No <input type="checkbox"/> *Distance from probe to tree (m) _____ Direction from probe to tree _____ *Height of tree (m) _____			
Are there any obstacles to air flow? *Yes <input type="checkbox"/> (answer *'d questions) No <input type="checkbox"/> *Identify obstacle _____ Distance from probe inlet (m) _____ Direction from probe inlet to obstacle _____ *Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes <input type="checkbox"/> No <input type="checkbox"/> Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane _____			

Parameters	Monitoring Objective	Scale	Site Type
<input checked="" type="checkbox"/> NA Air flow > 200 L/min <input type="checkbox"/> PM10 <input type="checkbox"/> TSP <input type="checkbox"/> Pb	<input type="checkbox"/> Highest Concentration _____ <input type="checkbox"/> Population Exposure _____ <input type="checkbox"/> Source Oriented _____ <input type="checkbox"/> Background _____ <input type="checkbox"/> Transport _____ <input type="checkbox"/> Welfare Related Impacts _____	<input type="checkbox"/> Micro _____ <input type="checkbox"/> Middle _____ <input type="checkbox"/> Neighborhood _____ <input type="checkbox"/> Urban _____ <input type="checkbox"/> Regional _____	<input type="checkbox"/> SLAMS _____ <input type="checkbox"/> NCORE _____ <input type="checkbox"/> SPM _____ <input type="checkbox"/> NONREGULATORY _____
Probe inlet height (from ground) <input type="checkbox"/> < 2 m _____ <input type="checkbox"/> 2-7m _____ <input type="checkbox"/> 7-15 m _____ <input type="checkbox"/> > 15 m _____ Actual measured distance from probe inlet to ground (meters) _____			
Distance of inlet from horizontal (wall) and/or vertical (platform or roof) supporting structure > 2 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Actual measured distance from probe to supporting structure (meters) _____			
Distance between collocated PM-10, TSP or Pb sampler inlets = 2 to 4 m? Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/> Actual measured distance between collocated probes (meters) _____			
Distance between any high volume inlet and any other high or low volume inlet ≥ 2 m? Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>			
Is probe > 20 m from the nearest tree drip line? Yes <input type="checkbox"/> *No <input type="checkbox"/> (answer *'d questions) *Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes <input type="checkbox"/> *No <input type="checkbox"/> *Distance from probe to tree (m) _____ Direction from probe to tree _____ *Height of tree (m) _____			
Are there any obstacles to air flow? *Yes <input type="checkbox"/> (answer *'d questions) No <input type="checkbox"/> *Identify obstacle _____ Distance from probe inlet (m) _____ Direction from probe inlet to obstacle _____ *Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes <input type="checkbox"/> No <input type="checkbox"/> Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane _____			

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Parameters	Monitoring Objective	Scale	Site Type
<input type="checkbox"/> NA Air flow < 200 L/min <input checked="" type="checkbox"/> PM2.5 <input type="checkbox"/> PM10 <input type="checkbox"/> PM10-2.5 <input type="checkbox"/> PM10 Lead (PB) <input checked="" type="checkbox"/> PM2.5 Cont. (TEOM) <input type="checkbox"/> PM2.5 Cont. (BAM) <input type="checkbox"/> PM2.5 Spec. (SASS) <input type="checkbox"/> PM2.5 Spec. (URG) <input type="checkbox"/> PM2.5 Cont. Spec.	<input type="checkbox"/> General/Background <input type="checkbox"/> Highest Concentration <input checked="" type="checkbox"/> Population Exposure <input type="checkbox"/> Source Oriented <input type="checkbox"/> Transport <input type="checkbox"/> Upwind Background <input type="checkbox"/> Welfare Related Impacts	<input type="checkbox"/> Micro <input type="checkbox"/> Middle <input checked="" type="checkbox"/> Neighborhood <input type="checkbox"/> Urban <input type="checkbox"/> Regional	<input checked="" type="checkbox"/> SLAMS <input type="checkbox"/> N CORE <input type="checkbox"/> SPM <input type="checkbox"/> NONREGULATORY
Probe inlet height (from ground) <input type="checkbox"/> < 2 m <input checked="" type="checkbox"/> 2-7m <input type="checkbox"/> 7-15 m <input type="checkbox"/> > 15 m Actual measured distance from probe inlet to ground (meters) <u>2.4 m</u>			
Distance of inlet from horizontal (wall) and/or vertical (platform or roof) supporting structure > 2 m? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>			
Distance between inlets of any low volume monitor and any other low volume monitor at the site - 1 m or greater?			Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>
Distance between all low volume monitor inlets and any Hi-Volume PM-10 or TSP inlet = 2 m or greater?			Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input checked="" type="checkbox"/>
Are collocated PM2.5 Monitors (Two FRMs, FRM & BAM, FRM & TEOM, BAM & TEOM) Located at Site?		*Yes <input checked="" type="checkbox"/> (answer *d questions) No <input type="checkbox"/> NA <input type="checkbox"/>	
*Distance between collocated PM 2.5 sampler inlets = 1 to 4 m?		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Give actual (meters) <u>2 m</u>	
*Are collocated PM2.5 sampler inlets within 1 m vertically of each other?		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Give actual (meters) _____	
Is an URG 3000 monitor collocated with a SASS monitor at the site? *Yes <input type="checkbox"/> (answer *d questions) No <input type="checkbox"/> NA <input checked="" type="checkbox"/>			
*Distance between collocated speciation sampler inlets - 1 to 4 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Give actual (meters) _____			
*Are collocated speciation sampler inlets within 1 m vertically of each other? Yes <input type="checkbox"/> No <input type="checkbox"/> Give actual (meters) _____			
Is a low-volume PM10 monitor collocated with a PM2.5 monitor at the site to measure PM10-2.5? *Yes <input type="checkbox"/> (answer *d questions) No <input type="checkbox"/> NA <input checked="" type="checkbox"/>			
*Distance between collocated PM10 and PM2.5 inlets for PM10-2.5 samplers - 1 to 4 m? Yes <input type="checkbox"/> No <input type="checkbox"/>			
*Are collocated PM10 and PM2.5 sampler inlets within 1 m vertically of each other? Yes <input type="checkbox"/> No <input type="checkbox"/>			
Is probe > 20 m from the nearest tree drip line? Yes <input checked="" type="checkbox"/> *No <input type="checkbox"/> (answer *d questions)			
*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes <input type="checkbox"/> *No <input type="checkbox"/>			
*Distance from probe to tree (m) _____ Direction from probe to tree _____			
*Height of tree (m) _____			
Are there any obstacles to air flow? *Yes <input type="checkbox"/> (answer *d questions) No <input checked="" type="checkbox"/>			
*Identify obstacle _____ Distance from probe inlet (m) _____ Direction from probe inlet to obstacle _____			
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes <input type="checkbox"/> No <input type="checkbox"/>			
Distance of probe to nearest traffic lane (m) <u>83</u> Direction from probe to nearest traffic lane <u>NW</u>			

RECOMMENDATIONS:

- 1) Maintain current site status? Yes *No (answer *d questions)
- *2) Change monitoring objective? Yes (enter new objective _____) No
- *3) Change scale of representativeness? Yes (enter new scale _____) No
- *4) Relocate site? Yes No

Comments:

Reviewer Chengqing Xiao Date January 19, 2012

Ambient Monitoring Coordinator Chengqing Xiao Date 01/19/2012

Revised 2012-03-07

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Site Information

Region <u>WSRO</u>	Site Name <u>Cherry Grove</u>	AQS Site # <u>37-033-0001</u>
Street Address <u>7074 Cherry Grove Rd.</u>		City <u>Reidsville, NC 27320</u>
Urban Area <u>REIDSVILLE</u>	Core-based Statistical Area <u>None</u>	
Enter Exact		
Longitude <u>-79.468056</u>	Latitude <u>36.306944</u>	Method of Measuring
In Decimal Degrees	In Decimal Degrees	Other (explain) Explanation: <u>Google Earth</u>
Elevation Above/below Mean Sea Level (in meters)		<u>241</u>
Name of nearest road to inlet probe <u>Cherry Grove Road</u> , ADT <u>1500</u> Year <u>2010</u> Comments: <u>"Traffic Volume (AADT) Maps 2010 -- Caswell County"</u>		
Distance of site to nearest major road (m) _____ Direction from site to nearest major road _____		
Name of nearest major road _____ ADT _____ Year _____		
Comments: _____		
Site located near electrical substation/high voltage power lines?		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Distance of site to nearest railroad track	(m) _____	Direction to RR _____ <input checked="" type="checkbox"/> NA
Distance of site to nearest power pole w/transformer	(m) _____	Direction _____
Distance between site and drip line of water tower (m) _____	Direction from site to water tower _____ <input checked="" type="checkbox"/> NA	
Explain any sources of potential bias; include cultivated fields, loose bulk storage, stacks, vents, railroad tracks, construction activities, fast food restaurants, and swimming pools. _____		

ANSWER ALL APPLICABLE QUESTIONS:

Parameters	Monitoring Objective	Scale	Site Type
<input type="checkbox"/> NA <input type="checkbox"/> SO ₂ (NAAQS) <input type="checkbox"/> SO ₂ (trace-level) <input type="checkbox"/> NO _x (NAAQS) <input type="checkbox"/> HSN _o y <input checked="" type="checkbox"/> O ₃ <input type="checkbox"/> NH ₃ <input type="checkbox"/> Hydrocarbon <input type="checkbox"/> Air Toxics <input type="checkbox"/> HSCO (Not Micro) <input type="checkbox"/> CO (trace-level)	<input type="checkbox"/> General/Background <input type="checkbox"/> Highest Concentration <input type="checkbox"/> Max O ₃ Concentration <input type="checkbox"/> Population Exposure <input type="checkbox"/> Source Oriented <input checked="" type="checkbox"/> Transport <input type="checkbox"/> Upwind Background <input checked="" type="checkbox"/> Welfare Related Impacts	<input type="checkbox"/> Micro <input type="checkbox"/> Middle <input type="checkbox"/> Neighborhood <input checked="" type="checkbox"/> Urban <input type="checkbox"/> Regional	<input checked="" type="checkbox"/> SLAMS <input type="checkbox"/> NCORE <input type="checkbox"/> SPM <input type="checkbox"/> SPM/OPN <input type="checkbox"/> NONREGULATORY
Probe inlet height (from ground) 2-15 m? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Give actual measured height from ground (meters) <u>3 m</u>			
Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>			
Actual measured distance from probe to supporting structure (meters) <u>0.5 m</u>			
Distance of probe inlet from other monitoring probe inlets > 1 m? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>			
Is probe > 20 m from the nearest tree drip line? Yes <input checked="" type="checkbox"/> *No <input type="checkbox"/> (answer *'d questions)			
*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes <input type="checkbox"/> *No <input type="checkbox"/>			
*Distance from probe to tree (m) _____ Direction from probe to tree _____			
*Height of tree (m) _____			
Are there any obstacles to air flow? *Yes <input type="checkbox"/> (answer *'d questions) No <input checked="" type="checkbox"/>			
*Identify obstacle _____ Distance from probe inlet (m) _____ Direction from probe inlet to obstacle _____			
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes <input type="checkbox"/> No <input type="checkbox"/>			
Distance of probe to nearest traffic lane (m) <u>100</u> Direction from probe to nearest traffic lane <u>S</u>			

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Parameters	Monitoring Objective	Scale	Site Type
<input checked="" type="checkbox"/> NA <input type="checkbox"/> CO (Micro Only)	<input type="checkbox"/> Highest Concentration _____ <input type="checkbox"/> Population Exposure _____ <input type="checkbox"/> Source Oriented _____ <input type="checkbox"/> Transport _____ <input type="checkbox"/> Welfare Related Impacts _____	<input type="checkbox"/> Micro _____	<input type="checkbox"/> SLAMS _____ <input type="checkbox"/> SPM _____ <input type="checkbox"/> SPM/OPN _____ <input type="checkbox"/> NONREGULATORY
Probe inlet height (from ground) 2.5 - 3.5 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Actual measured distance from probe inlet to ground (meters) _____			
Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Actual measured distance from probe to supporting structure (meters) _____			
Distance of probe inlet to nearest intersection > 10 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Distance of probe inlet to nearest traffic lane 2 - 10 m? Yes <input type="checkbox"/> No <input type="checkbox"/>			
Is probe > 20 m from the nearest tree drip line? Yes <input type="checkbox"/> *No <input type="checkbox"/> (answer *'d questions)			
*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes <input type="checkbox"/> *No <input type="checkbox"/>			
*Distance from probe to tree (m) _____ Direction from probe to tree ____			
*Height of tree (m) _____			
Are there any obstacles to air flow? *Yes <input type="checkbox"/> (answer *'d questions) No <input type="checkbox"/>			
*Identify obstacle ____ Distance from probe inlet (m) _____ Direction from probe inlet to obstacle ____			
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes <input type="checkbox"/> No <input type="checkbox"/>			
Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane ____			

Parameters	Monitoring Objective	Scale	Site Type
<input checked="" type="checkbox"/> NA <input type="checkbox"/> NO _y (trace-level)	<input type="checkbox"/> General/Background _____ <input type="checkbox"/> Highest Concentration _____ <input type="checkbox"/> Max O ₃ Concentration _____ <input type="checkbox"/> Population Exposure _____ <input type="checkbox"/> Source Oriented _____ <input type="checkbox"/> Transport _____ <input type="checkbox"/> Upwind Background _____ <input type="checkbox"/> Welfare Related Impacts _____	<input type="checkbox"/> Micro _____ <input type="checkbox"/> Middle _____ <input type="checkbox"/> Neighborhood _____ <input type="checkbox"/> Urban _____ <input type="checkbox"/> Regional _____	<input type="checkbox"/> SLAMS _____ <input type="checkbox"/> NCORE _____ <input type="checkbox"/> SPM _____ <input type="checkbox"/> SPM/OPN _____ <input type="checkbox"/> NONREGULATORY
Probe inlet height (from ground) 10-15 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Actual measured distance from probe inlet to ground (meters) _____			
Distance of probe inlet from horizontal and/or vertical supporting structure > 1 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Actual measured distance from probe to supporting structure (meters) _____			
Distance of probe inlet from other monitoring probe inlets > 1 m? Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>			
Is probe > 20 m from the nearest tree drip line? Yes <input type="checkbox"/> *No <input type="checkbox"/> (answer *'d questions)			
*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes <input type="checkbox"/> *No <input type="checkbox"/>			
*Distance from probe to tree (m) _____ Direction from probe to tree ____			
*Height of tree (m) _____			
Are there any obstacles to air flow? *Yes <input type="checkbox"/> (answer *'d questions) No <input type="checkbox"/>			
*Identify obstacle ____ Distance from probe inlet (m) _____ Direction from probe inlet to obstacle ____			
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes <input type="checkbox"/> No <input type="checkbox"/>			
Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane ____			

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Parameters	Monitoring Objective	Scale	Site Type
<input checked="" type="checkbox"/> NA <input type="checkbox"/> NO ₂ (Near Road only) <input type="checkbox"/> CO (Near Road only)	<input type="checkbox"/> Highest Concentration _____ <input type="checkbox"/> Population Exposure _____ <input type="checkbox"/> Source Oriented _____ <input type="checkbox"/> Transport _____ <input type="checkbox"/> Welfare Related Impacts _____	<input type="checkbox"/> Micro _____	<input type="checkbox"/> SLAMS _____ <input type="checkbox"/> SPM _____ <input type="checkbox"/> NONREGULATORY _____
Probe inlet height (from ground) 2-15 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Give actual measured height from ground (meters) _____ Distance of probe inlet from horizontal (wall) and/or vertical (roof) supporting structure > 1 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Actual measured distance from probe to supporting structure (meters) _____ Distance of probe inlet from other monitoring probe inlets > 1 m? Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>			
Is probe > 20 m from the nearest tree drip line? Yes <input type="checkbox"/> *No <input type="checkbox"/> (answer *'d questions) *Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes <input type="checkbox"/> *No <input type="checkbox"/> *Distance from probe to tree (m) _____ Direction from probe to tree _____ *Height of tree (m) _____			
Are there any obstacles to air flow? *Yes <input type="checkbox"/> (answer *'d questions) No <input type="checkbox"/> *Identify obstacle _____ Distance from probe inlet (m) _____ Direction from probe inlet to obstacle _____ *Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes <input type="checkbox"/> No <input type="checkbox"/> Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane _____			

Parameters	Monitoring Objective	Scale	Site Type
<input checked="" type="checkbox"/> NA Air flow > 200 L/min <input type="checkbox"/> PM10 <input type="checkbox"/> TSP <input type="checkbox"/> Pb	<input type="checkbox"/> Highest Concentration _____ <input type="checkbox"/> Population Exposure _____ <input type="checkbox"/> Source Oriented _____ <input type="checkbox"/> Background _____ <input type="checkbox"/> Transport _____ <input type="checkbox"/> Welfare Related Impacts _____	<input type="checkbox"/> Micro _____ <input type="checkbox"/> Middle _____ <input type="checkbox"/> Neighborhood _____ <input type="checkbox"/> Urban _____ <input type="checkbox"/> Regional _____	<input type="checkbox"/> SLAMS _____ <input type="checkbox"/> NCORE _____ <input type="checkbox"/> SPM _____ <input type="checkbox"/> NONREGULATORY _____
Probe inlet height (from ground) <input type="checkbox"/> < 2 m _____ <input type="checkbox"/> 2-7m _____ <input type="checkbox"/> 7-15 m _____ <input type="checkbox"/> > 15 m _____ Actual measured distance from probe inlet to ground (meters) _____			
Distance of inlet from horizontal (wall) and/or vertical (platform or roof) supporting structure > 2 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Actual measured distance from probe to supporting structure (meters) _____			
Distance between collocated PM-10, TSP or Pb sampler inlets = 2 to 4 m? Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/> Actual measured distance between collocated probes (meters) _____			
Distance between any high volume inlet and any other high or low volume inlet ≥ 2 m? Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>			
Is probe > 20 m from the nearest tree drip line? Yes <input type="checkbox"/> *No <input type="checkbox"/> (answer *'d questions) *Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes <input type="checkbox"/> *No <input type="checkbox"/> *Distance from probe to tree (m) _____ Direction from probe to tree _____ *Height of tree (m) _____			
Are there any obstacles to air flow? *Yes <input type="checkbox"/> (answer *'d questions) No <input type="checkbox"/> *Identify obstacle _____ Distance from probe inlet (m) _____ Direction from probe inlet to obstacle _____ *Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes <input type="checkbox"/> No <input type="checkbox"/> Distance of probe to nearest traffic lane (m) _____ Direction from probe to nearest traffic lane _____			

Site Review Form Calendar Year 2011

Parameters	Monitoring Objective	Scale	Site Type
<input type="checkbox"/> NA Air flow < 200 L/min <input checked="" type="checkbox"/> PM2.5 <input type="checkbox"/> PM10 <input type="checkbox"/> PM10-2.5 <input type="checkbox"/> PM10 Lead (PB) <input checked="" type="checkbox"/> PM2.5 Cont. (TEOM) <input type="checkbox"/> PM2.5 Cont. (BAM) <input type="checkbox"/> PM2.5 Spec. (SASS) <input type="checkbox"/> PM2.5 Spec. (URG) <input type="checkbox"/> PM2.5 Cont. Spec.	<input checked="" type="checkbox"/> General/Background <input type="checkbox"/> Highest Concentration <input checked="" type="checkbox"/> Population Exposure <input type="checkbox"/> Source Oriented <input checked="" type="checkbox"/> Transport <input type="checkbox"/> Upwind Background <input type="checkbox"/> Welfare Related Impacts	<input type="checkbox"/> Micro <input type="checkbox"/> Middle <input type="checkbox"/> Neighborhood <input checked="" type="checkbox"/> Urban <input type="checkbox"/> Regional	<input checked="" type="checkbox"/> SLAMS FRM <input type="checkbox"/> N CORE <input type="checkbox"/> SPM <input checked="" type="checkbox"/> NONREGULATORY TEOM
Probe inlet height (from ground) <input type="checkbox"/> < 2 m <input checked="" type="checkbox"/> 2-7m <input type="checkbox"/> 7-15 m <input type="checkbox"/> > 15 m Actual measured distance from probe inlet to ground (meters) <u>2.4</u>			
Distance of inlet from horizontal (wall) and/or vertical (platform or roof) supporting structure > 2 m? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>			
Distance between inlets of any low volume monitor and any other low volume monitor at the site - 1 m or greater?			Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>
Distance between all low volume monitor inlets and any Hi-Volume PM-10 or TSP inlet = 2 m or greater?			Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input checked="" type="checkbox"/>
Are collocated PM2.5 Monitors (Two FRMs, FRM & BAM, FRM & TEOM, BAM & TEOM) Located at Site?		*Yes <input checked="" type="checkbox"/> (answer *d questions) No <input type="checkbox"/> NA <input type="checkbox"/>	
*Distance between collocated PM 2.5 sampler inlets = 1 to 4 m?		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Give actual (meters) <u>2</u>	
*Are collocated PM2.5 sampler inlets within 1 m vertically of each other?		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Give actual (meters) _____	
Is an URG 3000 monitor collocated with a SASS monitor at the site? *Yes <input type="checkbox"/> (answer *d questions) No <input type="checkbox"/> NA <input checked="" type="checkbox"/>			
*Distance between collocated speciation sampler inlets - 1 to 4 m? Yes <input type="checkbox"/> No <input type="checkbox"/> Give actual (meters) _____			
*Are collocated speciation sampler inlets within 1 m vertically of each other? Yes <input type="checkbox"/> No <input type="checkbox"/> Give actual (meters) _____			
Is a low-volume PM10 monitor collocated with a PM2.5 monitor at the site to measure PM10-2.5? *Yes <input type="checkbox"/> (answer *d questions) No <input type="checkbox"/> NA <input checked="" type="checkbox"/>			
*Distance between collocated PM10 and PM2.5 inlets for PM10-2.5 samplers - 1 to 4 m? Yes <input type="checkbox"/> No <input type="checkbox"/>			
*Are collocated PM10 and PM2.5 sampler inlets within 1 m vertically of each other? Yes <input type="checkbox"/> No <input type="checkbox"/>			
Is probe > 20 m from the nearest tree drip line? Yes <input checked="" type="checkbox"/> *No <input type="checkbox"/> (answer *d questions)			
*Is probe > 10 m from the nearest tree drip line if tree acts as an obstruction? Yes <input type="checkbox"/> *No <input type="checkbox"/>			
*Distance from probe to tree (m) _____ Direction from probe to tree _____			
*Height of tree (m) _____			
Are there any obstacles to air flow? *Yes <input type="checkbox"/> (answer *d questions) No <input checked="" type="checkbox"/>			
*Identify obstacle _____ Distance from probe inlet (m) _____ Direction from probe inlet to obstacle _____			
*Is distance from inlet probe to obstacle at least twice the height that the obstacle protrudes above the probe? Yes <input type="checkbox"/> No <input type="checkbox"/>			
Distance of probe to nearest traffic lane (m) <u>100</u> Direction from probe to nearest traffic lane <u>S</u>			

RECOMMENDATIONS:

- 1) Maintain current site status? Yes *No (answer *d questions)
- *2) Change monitoring objective? Yes (enter new objective Transport, Welfare Related Impacts for O3) No
- *3) Change scale of representativeness? Yes (enter new scale _____) No
- *4) Relocate site? Yes No

Comments:

Reviewer Chengqing Xiao Date January 18, 2012

Ambient Monitoring Coordinator Chengqing Xiao Date 01/18/2012

Revised 2012-03-08

Appendix B-2. Scale of Representativeness

Each station in the monitoring network must be described in terms of the physical dimensions of the air parcel nearest the monitoring station throughout which actual pollutant concentrations are reasonably similar. Area dimensions or scales of representativeness used in the network description are:

- a) Microscale - defines the concentration in air volumes associated with area dimensions ranging from several meters up to about 100 meters.
- b) Middle scale - defines the concentration typical of areas up to several city blocks in size with dimensions ranging from about 100 meters to 0.5 kilometers.
- c) Neighborhood scale – defines concentrations within an extended area of a city that has relatively uniform land use with dimensions ranging from about 0.5 to 4.0 kilometers.
- d) Urban scale - defines an overall citywide condition with dimensions on the order of 4 to 50 kilometers.
- e) Regional Scale - defines air quality levels over areas having dimensions of 50 to hundreds of kilometers.

Closely associated with the area around the monitoring station where pollutant concentrations are reasonably similar are the basic monitoring exposures of the station.

There are six basic exposures:

- a) Sites located to determine the highest concentrations expected to occur in the area covered by the network.
- b) Sites located to determine representative concentrations in areas of high population density.
- c) Sites located to determine the impact on ambient pollution levels of significant sources or source categories.
- d) Sites located to determine general background concentration levels.
- e) Sites located to determine the extent of regional pollutant transport among populated areas.
- f) Sites located to measure air pollution impacts on visibility, vegetation damage, or other welfare-based impacts and in support of secondary standards.

The design intent in siting stations is to correctly match the area dimensions represented by the sample of monitored air with the area dimensions most appropriate for the monitoring objective of the station. The following relationship of the six basic objectives and the scales of representativeness are appropriate when siting monitoring stations:

Table 6. Site Type Appropriate Siting Scales

1. Highest concentration	Micro, middle, neighborhood (sometimes urban or regional for secondarily formed pollutants)
2. Population oriented	Neighborhood, urban
3. Source impact	Micro, middle, neighborhood
4. General/background & regional transport	Urban, regional
5. Welfare-related impacts	Urban, regional