AIR QUALITY ANALYSIS REPORT

For

ADMINISTRATIVE ACTION
ENVIRONMENTAL IMPACT STATEMENT

Wake and Johnston Counties

STIP Project Nos. R-2721, R-2828, and R-2829
State Project Nos. 6.401078, 6.401079, and 6.401080
Federal Aid Project Nos. STP-0540(19), STP-0540(20), and STP-0540(21)
WBS Nos. 37673.1.TA2, 35516.1.TA2, and 35517.1.TA1

Prepared for:

Prepared By:
H.W. Lochner, Inc.

October 15, 2015

AIR QUALITY ANALYSIS REPORT

Complete 540
Triangle Expressway Southeast Extension

Wake and Johnston Counties

STIP Project Nos. R-2721, R-2828, and R-2829
State Project Nos. 6.401078, 6.401079, and 6.401080
Federal Aid Project Nos. STP-0540(19), STP-0540(20), and STP-0540(21)
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Prepared for:

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Executive Summary

The North Carolina Department of Transportation (NCDOT), in cooperation with the Federal Highway Administration (FHWA), is proposing the completion of the 540 Outer Loop by way of the Southeast Extension of the Triangle Expressway in Wake and Johnston Counties. The project is included in the Statewide Transportation Improvement Program (STIP) as No. R-2721, R-2828 and R-2829. Seventeen Detailed Study Alternatives (DSAs) have been developed and investigated which consist of various portions of the Orange, Lilac, Purple, Blue, Red, Green, Brown, Mint, Tan and Teal corridors.

This Air Quality Analysis Report was completed in compliance with the Clean Air Act (CAA) and its amendments, related Federal regulations and FHWA Guidance.

The primary pollutants from motor vehicles are unburned hydrocarbons, nitrogen oxides (NOx), carbon monoxide (CO) and particulates. Hydrocarbons (HC) and nitrogen oxides (NOx) can combine in a complex series of reactions catalyzed by sunlight to produce photochemical oxidants such as ozone and NO_2. Because these reactions take place over a period of several hours, maximum concentrations of photochemical oxidants are often found far downwind of the precursor sources. These pollutants are regional problems.

Johnston County is in attainment with the United States Environmental Protection Agency's (EPA) National Ambient Air Quality Standards (NAAQS) as shown in Table 2. With the exception of CO, Wake County was in attainment with the NAAQS when the air quality study was initiated. Wake County was in a maintenance area for CO at that time but has since been designated as in attainment. A CO hot spot analysis was completed for the portion of the Complete 540 project located in Wake County even though one is no longer required.

Hot spot analysis was conducted for the CO in Wake County. Along the seventeen DSAs three intersections were chosen to be used in the analysis. The CO analysis was completed using MOVES2010b and CAL3QHC, and was done for the year of opening (2022), five years after opening (2027) and the design year (2035). The hot spot analysis found that the projected CO concentration levels do not violate the NAAQS. For the seventeen DSAs, the 1-hour and 8-hour CO concentrations are not expected to exceed 3.6 and 2.8 ppm (including background contributions), respectively, at any of the sites for any of the three years investigated. For the No Build Alternative, the 1-hour and 8-hour CO concentrations are not expected to exceed 3.8 and 3.0 ppm (including background contributions), respectively, at any of the sites for any of the three years investigated.

Since the project is located in an area that is in attainment for particulate matter, a detailed study of particulate matter is not required. It is unlikely that the project will have an effect on particulate matter that would exceed the health-based levels when considering background concentrations.

Mobile Source Air Toxics – In sum, under all DSAs in the design year it is expected there would be slightly higher MSAT emissions in the project study area relative to the No Build Alternative due to the increased VMT. In comparing the DSAs, MSAT levels could be higher in some locations than others, but current tools and science are not adequate to quantify them. However, in considering the project study area, EPA's vehicle and fuel regulations, coupled with fleet turnover, will over time cause substantial reductions that, in almost all cases, will cause area-wide MSAT levels to be significantly lower than today.

Construction Air Quality – Provided local ordinances for open burning and dust are followed, significant air quality impacts due to construction of the Complete 540 project are not anticipated. There would also be emissions related to construction equipment and vehicles. However, these impacts related to construction would be temporary. The proposed project would be constructed in phases, limiting the overall construction activity occurring at any one location.

Based on the air quality analysis completed for the proposed improvements, the Complete 540 project would not cause or contribute to any violation of the NAAQS.

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1 INTRODUCTION

The North Carolina Department of Transportation (NCDOT), in cooperation with the Federal Highway Administration (FHWA), is proposing the completion of the 540 Outer Loop by way of the Southeast Extension of the Triangle Expressway in Wake and Johnson Counties. This action is designated as three projects in the NCDOT 2012-2018 Statewide Transportation Improvement Program (STIP): R-2721, R-2828, and R-2829. Together, these STIP projects would combine to complete the 540 Outer Loop around the Raleigh metropolitan area. Seventeen Detailed Study Alternatives (DSAs) have been developed and investigated which consist of various combinations and portions of the Orange, Lilac, Purple, Blue, Red, Green, Brown, Mint, Tan and Teal corridors. **Figure 1** shows the project area and the Detailed Study Alternatives (DSAs).

Table 1: Detailed Study Alternative (DSA) Components

DSA	Corridors
1	Orange to Green
2	Orange to Green to Mint Green to Green
3	Orange to Brown (South) to Tan (North) to Green
4	Orange to Brown to Green
5	Orange to Green to Teal to Brown to Green
6	Orange to Red to Green
7	Orange to Red to Mint Green to Green
8	Orange to Purple-Blue-Lilac to Green
9	Orange to Purple-Blue-Lilac to Green to Mint Green to Green
10	Orange to Purple-Blue-Lilac to Brown (South) to Tan (North) to Green
11	Orange to Purple-Blue-Lilac to Brown to Green
12	Orange to Purple-Blue-Lilac to Green to Teal to Brown to Green
13	Orange to Lilac (at Sauls Road) to Green
14	Orange to Lilac (at Sauls Road) to Green to Mint Green to Green
15	Orange to Lilac (at Sauls Road) to Brown (South) to Tan (North) to Green
16	Orange to Lilac (at Sauls Road) to Brown to Green
17	Orange to Lilac (at Sauls Road) to Green to Teal to Brown to Green

Air pollution originates from various sources. Emissions from industry and internal combustion engines are the most prevalent sources. The impact resulting from highway construction ranges from intensifying existing air pollution problems to improving the ambient air quality. Changing traffic patterns are a primary concern when determining the impact of a new highway facility or the improvement of an existing highway facility. The primary pollutants from motor vehicles are unburned hydrocarbons, nitrogen oxides (NOx), carbon monoxide (CO) and particulates. Hydrocarbons (HC) and NOx can combine in a complex series of reactions catalyzed by sunlight to produce photochemical oxidants such as ozone and nitrogen

dioxide (NO_2). Because these reactions take place over a period of several hours, maximum concentrations of photochemical oxidants are often found far downwind of the precursor sources. These pollutants are regional problems. Nationally and, particularly in urban areas, the majority of CO emissions come from mobile sources. For this reason, most of the analysis presented herein is concerned with determining expected carbon monoxide levels in the vicinity of the project due to traffic flow.

2 PURPOSE

In compliance with the Clean Air Act (CAA) and its amendments, related Federal regulations and FHWA Guidance, this report discusses the conformity status and the air quality impact of the proposed Complete 540 project. This report is the technical document to support the Environmental Impact Statement being prepared for the proposed project.

This document addresses the status of this project's conformity in accordance with 40 CFR Parts 51 and 93, "Criteria and Procedures for Determining Conformity to State or Federal Implementation Plans of Transportation Plans, Programs, and Projects Funded or Approved Under Title 23 USC or the Federal Transit Act". It presents a qualitative analysis of Mobile Source Air Toxics (MSATs) for the design year (2035). This document also presents a CO microscale analysis for the anticipated first year of completion (2022), the opening year + 5 years (2027) and the design year (2035) comparing the results to the National Ambient Air Quality Standards (NAAQS).

3 CRITERIA POLLUTANTS

The Federal Clean Air Act of 1970 established the NAAQS. These were established in order to protect public health, safety, and welfare from known or anticipated effects of air pollutants. The National Ambient Air Quality Standards are presented in Table 2.

Table 2: National Ambient Air Quality Standards

Pollutant [final rule cite]		Primary/ Secondary	Averaging Time	Level	Form
Carbon Monoxide		primary	8-hour	9 ppm	Not to be exceeded more than once per year
[76 FR 54294, Aug 31, 2011]			1-hour	35 ppm	
Lead		primary and	Rolling 3 month	0.15 µg/m3 (1)	Not to be exceeded
[73 FR 66964, Nov 12, 2008]		secondary	average		
Nitrogen Dioxide		primary	1-hour	100 ppb	98th percentile, averaged over 3 years
[75 FR 6474, Feb 9, 2010]		primary and	Annual	53 ppb (2)	Annual Mean
[61 FR 52852, Oct 8, 1996]		secondary			
Ozone		primary and	8-hour	0.075 ppm (3)	Annual fourth-highest daily maximum 8-hr concentration, averaged over 3 years
[73 FR 16436, Mar 27, 2008]		secondary			
Particle Pollution 14-Dec-12	$PM_{2.5}$	primary	Annual	12 µg/m^3	annual mean, averaged over 3 years
		secondary	Annual	15 µg/m^3	annual mean, averaged over 3 years
		primary and secondary	24-hour	35 µg/m^3	98th percentile, averaged over 3 years
	PM_{10}	primary and secondary	24-hour	150 µg/m^3	Not to be exceeded more than once per year on average over 3 years
Sulfur Dioxide		primary	1-hour	75 ppb (4)	99th percentile of 1-hour daily maximum concentrations, averaged over 3 years
[75 FR 35520, Jun 22, 2010]					
[38 FR 25678, Sept 14, 1973]		secondary	3-hour	0.5 ppm	Not to be exceeded more than once per year

(1) Final rule signed October 15, 2008. The 1978 lead standard (1.5 µg/m3 as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

(2) The official level of the annual NO2 standard is 0.053 ppm, equal to 53 ppb, which is shown here for the purpose of clearer comparison to the 1-hour standard.

(3) Final rule signed March 12, 2008. The 1997 ozone standard (0.08 ppm, annual fourth-highest daily maximum 8-hour concentration, averaged over 3 years) and related implementation rules remain in place. In 1997, EPA revoked the 1-hour ozone standard (0.12 ppm, not to be exceeded more than once per year) in all areas, although some areas have continued obligations under that standard ("anti-backsliding"). The 1-hour ozone standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above 0.12 ppm is less than or equal to 1.

(4) Final rule signed June 2, 2010. The 1971 annual and 24-hour SO2 standards were revoked in that same rulemaking. However, these standards remain in effect until one year after an area is designated for the 2010 standard, except in areas designated nonattainment for the 1971 standards, where the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standard are approved.

3.1. CARBON MONOXIDE

Carbon monoxide is a colorless and odorless gas which is the product of incomplete combustion, and is the major pollutant from gasoline fueled motor vehicles. CO is a localized air quality issue. In order to determine the ambient CO concentration at a receptor near a highway, two concentration components must be used: local and background. The local concentration is defined as the CO emissions from cars operating on highways in the near vicinity (i.e., distances within 400 feet) of the receptor location. The background concentration is defined by the North Carolina Department of Environment and Natural Resources

(NCDENR) as "the concentration of a pollutant at a point that is the result of emissions outside the local vicinity; that is, the concentration at the upwind edge of the local sources."

In this study, the local concentration was determined by using line source computer modeling and the background component was obtained from NCDENR, Division of Air Quality. Once the two concentration components were ascertained, they were added together to determine the ambient CO concentration for the area in question and to compare to the NAAQS.

The background concentration for the 1-hour CO analysis was 2.9 parts per million (ppm) and the 8-hour persistence factor was 0.79 as identified by NCDENR, Division of Air Quality.

A detailed description of the microscale analysis is in **Section 3**.

3.2 HYDROCARBONS AND NITROGEN OXIDE

Automobiles are regarded as sources of hydrocarbons and nitrogen oxides. Hydrocarbons and nitrogen oxides emitted from cars are carried into the atmosphere where they react with sunlight to form ozone (O_3) and nitrogen dioxide (NO_2). Automotive emissions of HC and NOx are expected to decrease in the future due to the continued installation and maintenance of pollution control devices on new cars. However, regarding area-wide emissions, these technological improvements may be offset by the increasing number of cars on the transportation facilities of the area.

The photochemical reactions that form ozone and nitrogen dioxide require several hours to occur. For this reason, the peak levels of ozone generally occur 6 to 12 miles downwind of the source of hydrocarbon emissions. Urban areas as a whole are regarded as sources of hydrocarbons, not individual streets and highways. The emissions of all sources in an urban area mix in the atmosphere, and, in the presence of sunlight, this mixture reacts to form ozone, nitrogen dioxide, and other photochemical oxidants. The best example of this type of air pollution is the smog that forms in Los Angeles, California.

3.3 PARTICULATE MATTER AND SULFUR DIOXIDE

Particulate matter (PM) includes both airborne solid particles and liquid droplets. These liquid particles come in a wide range of sizes. PM_{10} particulates are coarse particles, such as windblown dust from fields and unpaved roads. $PM_{2.5}$ particulates are fine particles generally emitted from activities such as industrial and residential combustion and from vehicle exhaust. Automobiles are not regarded as significant sources of PM and sulfur dioxide (SO_2). Nationwide, highway sources account for less than seven percent of particulate matter emissions and less than two percent of sulfur dioxide emissions. PM and SO_2 emissions are predominantly the result of non-highway sources (e.g., industrial, commercial, and agricultural).

Because emissions of particulate matter and sulfur dioxide from automobiles are very low, there is no reason to suspect that traffic on the project will cause air quality standards for particulate matter and sulfur dioxide to exceed the NAAQS. Wake and Johnston counties are in attainment with the PM and SO_2 NAAQS.

3.4 LEAD

Automobiles without catalytic converters can burn regular gasoline. The burning of regular gasoline emits lead as a result of regular gasoline containing tetraethyl lead, which is added by refineries to increase the octane rating of the fuel. Newer cars with catalytic converters burn unleaded gasoline, thereby eliminating lead emissions. Also, the United States Environmental Protection Agency (EPA) has required the reduction in the lead content of leaded gasoline. The overall average lead content of gasoline in 1974 was approximately 0.53 gram per liter. By 1989, this composite average had dropped to 0.003 gram per liter. The Clean Air Act Amendments of 1990 made the sale, supply, or transport of leaded gasoline or lead additives unlawful after December 31, 1995. Because of these reasons, it is not expected that traffic on the proposed project will cause the NAAQS for lead to be exceeded. Wake and Johnston counties are in attainment with the Lead NAAQS.

4 CO MICROSCALE ANALYSIS

A microscale air quality analysis was performed to determine future CO concentrations resulting from the proposed highway improvements. "CAL3QHC - A Modeling Methodology For Predicting Pollutant Concentrations Near Roadway Intersections" was used to predict the CO concentration near sensitive receptors.

Inputs into the mathematical model used to estimate hourly CO concentrations consisted of a level roadway under normal conditions with predicted traffic volumes, vehicle emission factors, and worst-case meteorological parameters. The traffic volumes are based on the annual average daily traffic projections. Carbon monoxide vehicle emission factors were calculated for the years 2022, 2027 and 2035 using the EPA publication "Mobile Source Emission Factors", and the MOVES2010b mobile source emissions computer model.

4.1 RECEPTOR SITES

For the DSAs being studied, three intersections having the potential for generating the highest CO concentration were identified across all of the 17 DSAs. The determination of which intersections have the potential for generating the highest concentration of CO is primarily dependant on traffic volumes and

congestion. The three intersections with the highest volume of entering vehicles and the worst Levels of Service (D for either AM or PM) are the intersections of Fayetteville Road at the Orange Corridor proposed South 540 ramps, Old Stage Road at the Red Corridor proposed North 540 ramps, and Bells Lake Road at the Orange Corridor proposed South 540 ramps. See Figure 2 for locations of the air quality receptor sites.

The intersection of Fayetteville Road and proposed 540 is located within DSAs 1 through 7 and 13 through 17. The intersection of Old Stage Road and proposed 540 is located within DSAs 1 through 5 and 13 through 17. The intersection of Bells Lake Road and proposed 540 is located within DSAs 6 through 7. None of the three intersections studied are along DSAs 8 through 12 which are DSAs that include the Purple and Blue Corridors because those DSAs are predicted to have lower traffic volumes and levels of congestion. Since the three intersections studied are worst-case scenarios, the results can reasonably be applied to DSAs 8 through 12.

4.2 YEARS ANALYZED

Air quality projections were calculated for the completion year (2022), interim year after project completion (2027), and the design year (2035).

4.3 BACKGROUND CONCENTRATIONS

The background concentration for the 1-hour CO analysis was 2.9 parts per million (ppm) and the 8-hour persistence factor was 0.79 as identified by NCDENR, Division of Air Quality.

4.4 MICROSCALE ANALYSIS METHOD AND MODEL DESCRIPTION

Microscale CO projections were made using the EPA-approved MOVES2010b and CAL3QHC (Version 2.0) computer models. MOVES2010b was used to determine CO emission factors which, in turn, were used in the CAL3QHC model to generate CO concentrations. CAL3QHC is a versatile dispersion model which predicts CO concentrations for roadway segments and/or intersections. It utilizes CALINE3 for all concentration computations.

The computed pollution concentration values from CAL3QHC represent combinations of both those levels generated by roadway traffic and assumed background concentrations. Air pollutant concentrations are dependent upon factors such as meteorological and source characteristics, as well as the dispersion and distribution of emissions. The values for the factors that were used in the MOVES2010b and CAL3QHC computer simulations for the study are presented below.

4.4.1 Emission Factors

To develop emission factors which would be representative of localized conditions for the investigated years, a number of variables were utilized. **Section 4.4.2** contains a list of the variables used in the MOVES2010b program. Table 3 has a summary of the emission factors used for the project. The MOVES2010b printouts, from which this information was obtained, are contained in **Appendix A**.

4.4.2 MOVES2010b VARIABLES

- Basic Run Specification Inputs
  - Scale
    - Domain/Scale: Project
    - Calculation Type: Inventory
  - Time Spans
    - Years: 2022, 2027, and 2035
    - Months: January
    - Days: Weekdays
    - Hours: AM or PM peak, dependent on the intersection scenario under study
  - Geographic Bounds: NORTH CAROLINA – Wake County
  - On Road Vehicle Equipment
    - Fuels: Diesel Fuel and Gasoline
    - All Source Use Types
    - All Resulting Fuel/Type Combinations Except for:
      - Diesel Fuel/Motorcycle
      - Gasoline/Combination Long-haul Truck
      - Gasoline/Intercity Bus
  - Road Type: Urban Unrestricted Access
  - Pollutants And Processes: Carbon Monoxide (CO)
    - Running Exhaust
    - Crankcase Running Exhaust
  - General Output
    - Mass Units: Grams
    - Energy Units: Joules
    - Distance Units: Miles
    - Activity: Distance Traveled and Population
- Project Data Manager
  - Fuel: Default Fuel Formulation and Fuel Supply Data in MOVES
  - Meteorology Data: Data to be obtained from NCDENR
  - I/M Programs: Data to be obtained from NCDENR (same for all I/M programs in North Carolina)
  - Operating Mode Distribution: n/a
  - Age Distribution: County-specific data to be obtained from NCDENR
  - Fueltype and Technologies: Default Alternative Vehicle Fuel Type Data in MOVES
    - Will be modified to exclude CNG buses
  - Links: User-generated based on specified intersection scenario
    - Posted speed limit is 65 mph along proposed 540

- Posted speed limit is 55 mph along Fayetteville Road
- Posted speed limit is 45 mph along Old Stage Road
- Posted speed limit is 45 mph along Bells Lake Road

- Link Source Types: County-specific data to be obtained from NCDENR
- Link Drive Schedules: n/a
- Off-Network: n/a

TABLE 3: COMPOSITE CARBON MONOXIDE EMISSION FACTORS

Average Vehicle Speed (MPH)	Year		
	2022	2027	2035
Idle	21.05	16.11	13.52
30	4.42	3.87	3.68
40	3.93	3.45	3.27
65	4.06	3.54	3.35

CO emission factors for all vehicles are measured in grams/hour for idle condition and grams/mile for operating speeds.

4.4.3 Predicted Concentrations

Table 4 contains a summary of all the variables, except traffic, that were used in the CAL3QHC model to compute predicted 1-hour CO concentrations at the investigated sites. To account for the variation in traffic and meteorological conditions over time, a persistence factor was used to convert the 1-hour concentration to a predicted 8-hour average concentration. The recommended persistence factor of 0.79 for the Wake County area was used to convert the 1-hour concentrations to 8-hour average concentrations in this study.

TABLE 4: CAL3QHC MODEL VARIABLES

Factor Type	Classification	Factor
Meteorological Factors	Wind Speed	1 m/s
	Wind Direction	Program computes worst direction for each receptor.
	Stability Class	D
	Mixing Height	1000 meters
General Factors	Averaging Time	60 minutes
	Surface Roughness	108 cm (Single Family Residential)
Roadway Link Data	Type/Height	Assume roadways are at grade.
	Mixing Cell Width	Total width of free-flow lanes plus 10 feet.
	Traffic Volume	Traffic volumes were based on the design hourly volumes.
	Emission Factors	Knowing the year of analysis and the anticipated average vehicle speed for the roadway under investigation, the emission factor for each roadway link was determined from the results of the MOVES2010b computer run (refer to Table 2).
	Link Coordinates	Mapping that was used to identify the link coordinates is in the project file.

Receptor Data

Each receptor was assumed to be six feet above the ground elevation. They were identified utilizing the same coordinate system as the roadway links. They appear on the same maps with the roadway links.

Background Concentrations

The background concentration for the 1-hour CO analysis was 2.9 parts per million (ppm) and the 8-hour persistence factor was 0.79 as identified by NCDENR, Division of Air Quality.

4.5 RESULTS

The results from the microscale analysis for the three intersections being investigated in this analysis are summarized in Tables 3, 4 and 5. These tables include the 1-hour and 8-hour concentrations for each analyzed receptor for the three years investigated. The CAL3QHC printouts, from which the 1-hour concentrations in Tables 5, 6 and 7 were developed, are included in **Appendix B**.

TABLE 5: PREDICTED CARBON MONOXIDE CONCENTRATIONS – BELLS LAKE ROAD INTERSECTION (Parts Per Million)

Bells Lake Road Intersection											
Scenario		Year	Analysis Site									
			1	2	3	4	5	6	7	8	9	10
1-Hour[1]	Build	2022-Completion Year	3.0	3.0	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
		2027 - Interim Year	3.0	3.0	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
		2035 - Design Year	3.2	3.2	3.0	3.0	3.2	3.2	3.2	3.2	3.2	3.2
	No Build	2022-Completion Year	3.0	3.0	2.9	2.9	3.0	3.0	3.0	2.9	2.9	2.9
		2027 - Interim Year	3.0	3.0	2.9	2.9	3.0	3.0	3.0	3.0	3.0	2.9
		2035 - Design Year	3.1	3.1	3.0	2.9	3.0	3.0	3.0	3.0	3.0	3.0
8-Hour[2]	Build	2022-Completion Year	2.4	2.4	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
		2027 - Interim Year	2.4	2.4	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
		2035 - Design Year	2.5	2.5	2.4	2.4	2.5	2.5	2.5	2.5	2.5	2.5
	No Build	2022-Completion Year	2.4	2.4	2.3	2.3	2.4	2.4	2.4	2.3	2.3	2.3
		2027 - Interim Year	2.4	2.4	2.3	2.3	2.4	2.4	2.4	2.4	2.4	2.3
		2035 - Design Year	2.4	2.4	2.4	2.3	2.4	2.4	2.4	2.4	2.4	2.4

[1]Includes 2.9 ppm Background concentration
[2]Includes 2.3 ppm Background concentration

TABLE 6: PREDICTED CARBON MONOXIDE CONCENTRATIONS - FAYETTEVILLE ROAD (US 401) (Parts Per Million)

Fayetteville Road Intersection														
Scenario		Year	Analysis Site											
			1	2	3	4	5	6	7	8	9	10	11	12	13
1-Hour[1]	Build	2022-Completion Year	3.1	3.3	3.4	3.3	3.3	3.2	3.1	3.3	3.4	3.3	3.4	3.4	2.9
		2027 - Interim Year	3.1	3.3	3.5	3.5	3.5	3.2	3.1	3.4	3.6	3.5	3.5	3.4	2.9
		2035 - Design Year	3.1	3.2	3.4	3.3	3.2	3.2	3.2	3.2	3.4	3.4	3.5	3.4	2.9
	No Build	2022-Completion Year	3.1	3.1	3.3	3.3	3.3	3.1	3.1	3.1	3.5	3.1	3.1	3.2	3.0
		2027 - Interim Year	3.1	3.1	3.3	3.3	3.3	3.1	3.1	3.1	3.5	3.1	3.1	3.1	3.0
		2035 - Design Year	3.1	3.1	3.4	3.3	3.4	3.1	3.1	3.2	3.5	3.1	3.2	3.3	3.0
8-Hour[2]	Build	2022-Completion Year	2.4	2.6	2.7	2.6	2.6	2.5	2.4	2.6	2.7	2.6	2.7	2.7	2.3
		2027 - Interim Year	2.4	2.6	2.8	2.8	2.8	2.5	2.4	2.7	2.8	2.8	2.8	2.7	2.3
		2035 - Design Year	2.4	2.5	2.7	2.6	2.5	2.5	2.5	2.5	2.7	2.7	2.8	2.7	2.3
	No Build	2022-Completion Year	2.4	2.4	2.6	2.6	2.6	2.4	2.4	2.4	2.8	2.4	2.4	2.5	2.4
		2027 - Interim Year	2.4	2.4	2.6	2.6	2.6	2.4	2.4	2.4	2.8	2.4	2.4	2.4	2.4
		2035 - Design Year	2.4	2.4	2.7	2.6	2.7	2.4	2.4	2.5	2.8	2.4	2.5	2.6	2.4

[1]Includes 2.9 ppm background concentration
[2]Includes 2.3 ppm background concentration

TABLE 7: PREDICTED CARBON MONOXIDE CONCENTRATIONS- OLD STAGE ROAD (Parts Per Million)

Old Stage Road Intersection														
Scenario		Year	Analysis Site											
			1	2	3	4	5	6	7	8	9	10	11	12	13
1-Hour[1]	Build	2022-Completion Year	3.2	3.4	3.2	3.2	2.9	2.9	3.0	2.9	2.9	3.1	3.1	3.1	3.1
		2027 - Interim Year	3.2	3.4	3.2	3.2	2.9	2.9	3.1	2.9	2.9	3.1	3.1	3.1	3.1
		2035 - Design Year	3.4	3.5	3.2	3.3	2.9	2.9	3.4	3.0	3.0	3.1	3.0	3.0	3.4
	No Build	2022-Completion Year	3.1	3.0	3.0	3.0	3.0	3.2	3.6	3.3	3.3	3.1	3.0	3.3	3.3
		2027 - Interim Year	3.1	3.0	3.0	3.0	3.0	3.2	3.7	3.3	3.3	3.2	3.1	3.3	3.3
		2035 - Design Year	3.1	3.1	3.1	3.1	3.0	3.3	3.8	3.3	3.5	3.3	3.1	3.3	3.5
8-Hour[2]	Build	2022-Completion Year	2.5	2.7	2.5	2.5	2.3	2.3	2.4	2.3	2.3	2.4	2.4	2.4	2.4
		2027 - Interim Year	2.5	2.7	2.5	2.5	2.3	2.3	2.4	2.3	2.3	2.4	2.4	2.4	2.4
		2035 - Design Year	2.7	2.8	2.5	2.6	2.3	2.3	2.7	2.4	2.4	2.4	2.4	2.4	2.7
	No Build	2022-Completion Year	2.4	2.4	2.4	2.4	2.4	2.5	2.8	2.6	2.6	2.4	2.4	2.6	2.6
		2027 - Interim Year	2.4	2.4	2.4	2.4	2.4	2.5	2.9	2.6	2.6	2.5	2.4	2.6	2.6
		2035 - Design Year	2.4	2.4	2.4	2.4	2.4	2.6	3.0	2.6	2.8	2.6	2.4	2.6	2.8

[1]Includes 2.9 ppm background concentration
[2]Includes 2.3 ppm background concentration

4.6 EVALUATION OF RESULTS

In comparing the projected CO concentration levels in Tables 5, 6 and 7 with the National Ambient Air Quality Standards, no violations of the 1-hour standard (35 ppm) or 8-hour standard (9 ppm) are expected. For the build scenario the 1-hour and 8-hour CO concentrations are not expected to exceed 3.6 and 2.8 ppm (including background contributions), respectively, at any of the sites for any of the three years investigated. For the no build scenario, the 1-hour and 8-hour CO concentrations are not expected to exceed 3.8 and 3.0 ppm (including background contributions), respectively, at any of the sites for any of the three years investigated. Since the three intersections studied represent worst-case scenarios, these results can reasonably be applied to all 17 DSAs.

5 ATTAINMENT STATUS AND CONFORMITY

The project is located in Wake and Johnston Counties, which are within the Raleigh-Durham attainment area for fine particles PM 2.5 as defined by the EPA.

Wake and Johnston Counties are designated as an attainment area for O_3 under the eight-hour ozone standard.

The project is located in Wake County, which is within the Raleigh-Durham maintenance area for CO as defined by the EPA. The Raleigh-Durham area was redesignated for CO on September 18, 1995 and due to improved monitoring data was placed under a limited maintenance plan (conformity is required without a regional emissions analysis) on July 22, 2013. Section 176(c) of the CAAA requires that transportation plans, programs, and projects conform to the intent of the state air quality implementation plan (SIP). The current SIP does not contain any transportation control measures for Wake County. The Capital Area Metropolitan Planning Organization (MPO) 2040 Long Range Transportation Plan (LRTP), and the 2012-2018 Transportation Improvement Programs (TIP) conform to the intent of the SIP. The USDOT made a conformity determination on the Capital Area MPO LRTP on June 14, 2013, and the TIP on December 15, 2014. The current conformity determination is consistent with the final conformity rule found in 40 CFR Parts 51 and 93. There are no significant changes in the project's design concept or scope, as used in the conformity analyses.

6 PARTICULATE MATTER

This project is not considered a project of local air quality concern since it primarily serves gasoline-powered vehicle traffic, does not serve a significant volume of diesel truck traffic and does not connect a highway with a major freight, bus or intermodal facility. A qualitative $PM_{2.5}$ hot-spot analysis is not required for this project since it is not a project of local air quality concern. The Clean Air Act and 40 CFR 93.116 requirements were met without a hot-spot analysis, since this project has been found not to be of air quality concern under 40 CFR 93.123(b)(1). Wake and Johnston counties are in attainment with PM NAAQS. This project meets the statutory transportation conformity requirements without a hotspot analysis.

Since the project is located in an area that is in attainment for particulate matter, a detailed study of particulate matter is not required. It is unlikely that the project will have an effect on particulate matter that would exceed the health-based levels when considering background concentrations.

7 MOBILE SOURCE AIR TOXICS

7.1 BACKGROUND

Controlling air toxic emissions became a national priority with the passage of the Clean Air Act Amendments (CAAA) of 1990, whereby Congress mandated that the U.S. Environmental Protection Agency (EPA) regulate 188 air toxics, also known as hazardous air pollutants. The EPA has assessed this expansive list in their latest rule on the Control of Hazardous Air Pollutants from Mobile Sources (Federal Register, Vol. 72, No. 37, page 8430, February 26, 2007) and identified a group of 93 compounds emitted from mobile sources that are listed in their Integrated Risk Information System (IRIS) (http://www.epa.gov/ncea/iris/index.html). In addition, EPA identified seven compounds with significant contributions from mobile sources that are among the national and regional-scale cancer risk drivers from their 1999 National Air Toxics Assessment (NATA) (http://www.epa.gov/ttn/atw/nata1999/). These are acrolein, benzene, 1,3-butadiene, diesel particulate matter plus diesel exhaust organic gases (diesel PM), formaldehyde, naphthalene and polycyclic organic matter. While FHWA considers these the priority mobile source air toxics, the list is subject to change and may be adjusted in consideration of future EPA rules. The 2007 EPA rule mentioned above requires controls that will dramatically decrease MSAT emissions through cleaner fuels and cleaner engines.

7.2 MOTOR VEHICLE EMISSIONS SIMULATOR (MOVES)

According to the EPA, MOVES improves upon the previous MOBILE model in several key aspects: MOVES is based on vast amount of in-use vehicle data collected and analyzed since the latest release of MOBILE, including millions of emissions measurements from light-duty vehicles. Analysis of this data enhanced EPA's understanding of how mobile sources contribute to emissions inventories and the relative effectiveness of various control strategies. In addition, MOVES accounts for the significant effects that vehicle speed and temperature have on PM emissions estimates, whereas MOBILE did not. MOVES2010b includes all air toxic pollutants in NATA that are emitted by mobile sources. EPA has incorporated more recent data into MOVES2010b to update and enhance the quality of MSAT emission estimates. These data reflect advanced emission control technology and modern fuels plus additional data for older technology vehicles.

Based on an FHWA analysis using EPA's MOVES2010b model, as shown in Figure 3, even if vehicle-miles traveled (VMT) increases by 102 percent as assumed from 2010 to 2050, a combined reduction of 83 percent in the total annual emissions for the priority MSAT is projected for the same time period.

The implications of MOVES on MSAT emissions estimates compared to MOBILE are: lower estimates of total MSAT emissions; significantly lower benzene emissions; significantly higher diesel PM emissions, especially for lower speeds. Consequently, diesel PM is projected to be the dominant component of the emissions total.

7.3 MSAT RESEARCH

Air toxics analysis is a continuing area of research. While much work has been done to assess the overall health risk of air toxics, many questions remain unanswered. In particular, the tools and techniques for assessing project-specific health outcomes as a result of lifetime MSAT exposure remain limited. These limitations impede the ability to evaluate how the potential health risks posed by MSAT exposure should be factored into project-level decision-making within the context of the National Environmental Policy Act (NEPA).

Nonetheless, air toxics concerns continue to be raised on highway projects during the NEPA process. Even as the science emerges, we are duly expected by the public and other agencies to address MSAT impacts in our environmental documents. The FHWA, EPA, the Health Effects Institute, and others have funded and conducted research studies to try to more clearly define potential risks from MSAT emissions associated with highway projects. The FHWA will continue to monitor the developing research in this emerging field.

7.4 NEPA CONTEXT

NEPA requires, to the fullest extent possible, that the policies, regulations, and laws of the Federal Government be interpreted and administered in accordance with its environmental protection goals. The NEPA also requires Federal agencies to use an interdisciplinary approach in planning and decision-making for any action that adversely impacts the environment. The NEPA requires and FHWA is committed to the examination and avoidance of potential impacts to the natural and human environment when considering approval of proposed transportation projects. In addition to evaluating the potential environmental effects, we must also take into account the need for safe and efficient transportation in reaching a decision that is in the best overall public interest. The FHWA policies and procedures for implementing NEPA are prescribed by regulation in 23 CFR § 771.

7.5 ANALYSIS OF MSAT IN NEPA DOCUMENTS

The FHWA developed a tiered approach for analyzing MSAT in NEPA documents, depending on specific project circumstances. The FHWA has identified three levels of analysis:

1. No analysis for projects with no potential for meaningful MSAT effects;
2. Qualitative analysis for projects with low potential MSAT effects; or
3. Quantitative analysis to differentiate alternatives for projects with higher potential MSAT effects.

For projects warranting MSAT analysis, the seven priority MSAT should be analyzed. This project is included in Tier 2 above.

7.6 QUALITATIVE MSAT ANALYSIS

For each DSA in the EIS, the amount of MSAT emitted would be proportional to the vehicle miles traveled, or VMT, assuming that other variables such as fleet mix are the same for each DSA. See Table 8 for a comparison of the VMT and vehicle hours traveled (VHT) for each of the 17 DSAs and the No-Build Alternative. As shown in the table, the VMT under the DSAs will increase between 0.9% and 1.1% over the No-Build Alternative, a range of only 0.2%. The MSATs produced for each DSA will therefore be very similar.

Regardless of the DSA chosen, emissions will likely be lower than present levels in the design year as a result of EPA's national control programs that are projected to reduce annual MSAT emissions by over 80 percent from 2010 to 2050. Local conditions may differ from these national projections in terms of fleet mix and turnover, VMT growth rates, and local control measures. However, the magnitude of the EPA-projected reductions is so great (even after accounting for VMT growth) that MSAT emissions in the study area are likely to be lower in the future in virtually all locations.

Under each DSA there may be localized areas where VMT would increase, such as near proposed interchanges with 540, and other areas where VMT would decrease, such as roadways in the regional network that are redundant to the service provided by 540. Therefore, it is possible that localized increases and decreases in MSAT emissions may occur. However, even if these increases do occur, they too will be substantially reduced in the future due to implementation of EPA's vehicle and fuel regulations.

TABLE 8: VEHICLE MILES AND VEHICLE HOURS TRAVELED UNDER VARIOUS SCENARIOS

Scenario	2035 Daily Vehicle Miles Traveled (VMT) in 1000's	Percent Change in VMT Compared to No-Build Alternative	2035 Daily Vehicle Hours Traveled (VHT) in 1000's	Percent Change in VHT Compared to No-Build Alternative
No-Build Alternative	82,132		2,338	
Detailed Study Alternatives				
1 - Orange to Green	82,930	1.0%	2,307	-1.4%
2 - Orange to Green to Mint Green to Green	82,930	1.0%	2,307	-1.4%
3 - Orange to Brown (South) to Tan (North) to Green	83,003	1.1%	2,293	-1.9%
4 - Orange to Brown to Green	83,003	1.1%	2,293	-1.9%
5 - Orange to Green to Teal to Brown to Green	82,980	1.0%	2,293	-1.9%
6 - Orange to Red to Green	82,950	1.0%	2,312	-1.1%
7 - Orange to Red to Mint Green to Green	82,950	1.0%	2,312	-1.1%
8 - Orange to Purple-Blue-Lilac to Green	82,878	0.9%	2,309	-1.3%
9 - Orange to Purple-Blue-Lilac to Green to Mint Green to Green	82,878	0.9%	2,309	-1.3%
10 - Orange to Purple-Blue-Lilac to Brown (South) to Tan (North) to Green	82,880	0.9%	2,310	-1.2%
11 - Orange to Purple-Blue-Lilac to Brown to Green	82,880	0.9%	2,310	-1.2%
12 - Orange to Purple-Blue-Lilac to Green to Teal to Brown to Green	82,810	0.8%	2,308	-1.3%
13 - Orange to Lilac (at Sauls Road) to Green	82,930	1.0%	2,307	-1.4%
14 - Orange to Lilac (at Sauls Road) to Green to Mint Green to Green	82,930	1.0%	2,307	-1.4%
15 - Orange to Lilac (at Sauls Road) to Brown (South) to Tan (North) to Green	83,003	1.1%	2,293	-1.9%
16 - Orange to Lilac (at Sauls Road) to Brown to Green	83,003	1.1%	2,293	-1.9%
17 - Orange to Lilac (at Sauls Road) to Green to Teal to Brown to Green	82,980	1.0%	2,293	-1.9%

Source: HNTB, 2014

The new travel lanes contemplated as part of the project DSAs will have the effect of moving some traffic closer to nearby homes, schools and businesses; therefore, under each DSA there may be localized areas where ambient concentrations of MSAT would be higher under certain DSAs than others. The localized differences in MSAT concentrations would likely be most pronounced along the new roadway sections of 540. However, the magnitude and the duration of these potential increases cannot be reliably quantified due to incomplete or unavailable information in forecasting project specific MSAT health impacts. Further, under all DSAs, overall future MSAT are expected to be substantially lower than today due to implementation of EPA's vehicle and fuel regulations.

7.7 INCOMPLETE OR UNAVAILABLE INFORMATION FOR PROJECT-SPECIFIC MSAT HEALTH IMPACTS ANALYSIS

In FHWA's view, information is incomplete or unavailable to credibly predict the project-specific health impacts due to changes in MSAT emissions associated with a proposed set of highway alternatives. The outcome of such an assessment, adverse or not, would be influenced more by the uncertainty introduced into the process through assumption and speculation rather than any genuine insight into the actual health impacts directly attributable to MSAT exposure associated with a proposed action.

The EPA is responsible for protecting the public health and welfare from any known or anticipated effect of an air pollutant. They are the lead authority for administering the Clean Air Act and its amendments and have specific statutory obligations with respect to hazardous air pollutants and MSAT. The EPA is in the continual process of assessing human health effects, exposures, and risks posed by air pollutants. They maintain the Integrated Risk Information System (IRIS), which is "a compilation of electronic reports on specific substances found in the environment and their potential to cause human health effects" (EPA, http://www.epa.gov/iris/). Each report contains assessments of non-cancerous and cancerous effects for individual compounds and quantitative estimates of risk levels from lifetime oral and inhalation exposures with uncertainty spanning perhaps an order of magnitude.

Other organizations are also active in the research and analyses of the human health effects of MSAT, including the Health Effects Institute (HEI). Two HEI studies are summarized in Appendix D of FHWA's Interim Guidance Update on Mobile source Air Toxic Analysis in NEPA Documents. Among the adverse health effects linked to MSAT compounds at high exposures are; cancer in humans in occupational settings; cancer in animals; and irritation to the respiratory tract, including the exacerbation of asthma. Less obvious is the adverse human health effects of MSAT compounds at current environmental concentrations (HEI, http://pubs.healtheffects.org/view.php?id=282) or in the future as vehicle emissions substantially decrease (HEI, http://pubs.healtheffects.org/view.php?id=306).

The methodologies for forecasting health impacts include emissions modeling; dispersion modeling; exposure modeling; and then final determination of health impacts - each step in the process building on the model predictions obtained in the previous step. All are encumbered by technical shortcomings or uncertain science that prevents a more complete differentiation of the MSAT health impacts among a set of project alternatives. These difficulties are magnified for lifetime (i.e., 70 year) assessments, particularly because unsupportable assumptions would have to be made regarding changes in travel patterns and vehicle technology (which affects emissions rates) over that time frame, since such information is unavailable.

It is particularly difficult to reliably forecast 70-year lifetime MSAT concentrations and exposure near roadways; to determine the portion of time that people are actually exposed at a specific location; and to establish the extent attributable to a proposed action, especially given that some of the information needed is unavailable.

There are considerable uncertainties associated with the existing estimates of toxicity of the various MSAT, because of factors such as low-dose extrapolation and translation of occupational exposure data to the general population, a concern expressed by HEI (http://pubs.healtheffects.org/view.php?id=282). As a result, there is no national consensus on air dose-response values assumed to protect the public health and welfare for MSAT compounds, and in particular for diesel PM. The EPA (http://www.epa.gov/risk/basicinformation.htm#g) and the HEI (http://pubs.healtheffects.org/getfile.php?u=395) have not established a basis for quantitative risk assessment of diesel PM in ambient settings.

There is also the lack of a national consensus on an acceptable level of risk. The current context is the process used by the EPA as provided by the Clean Air Act to determine whether more stringent controls are required in order to provide an ample margin of safety to protect public health or to prevent an adverse environmental effect for industrial sources subject to the maximum achievable control technology standards, such as benzene emissions from refineries. The decision framework is a two-step process. The first step requires EPA to determine an "acceptable" level of risk due to emissions from a source, which is generally no greater than approximately 100 in a million. Additional factors are considered in the second step, the goal of which is to maximize the number of people with risks less than 1 in a million due to emissions from a source. The results of this statutory two-step process do not guarantee that cancer risks from exposure to air toxics are less than 1 in a million; in some cases, the residual risk determination could result in maximum individual cancer risks that are as high as approximately 100 in a million. In a June 2008 decision, the U.S. Court of Appeals for the District of Columbia Circuit upheld EPA's

approach to addressing risk in its two step decision framework. Information is incomplete or unavailable to establish that even the largest of highway projects would result in levels of risk greater than deemed acceptable.

Because of the limitations in the methodologies for forecasting health impacts described, any predicted difference in health impacts between alternatives is likely to be much smaller than the uncertainties associated with predicting the impacts. Consequently, the results of such assessments would not be useful to decision makers, who would need to weigh this information against project benefits, such as reducing traffic congestion, accident rates, and fatalities plus improved access for emergency response, that are better suited for quantitative analysis.

7.8 MSAT CONCLUSION

Based on the qualitative analysis completed, under all DSAs in the design year it is expected there would be slightly higher MSAT emissions in the project study area relative to the No Build Alternative due to the increased VMT. In comparing the DSAs, MSAT levels could be higher in some locations than others, but current tools and science are not adequate to quantify them. However, in considering the project study area, EPA's vehicle and fuel regulations, coupled with fleet turnover, will over time cause substantial reductions that, in almost all cases, will cause area-wide MSAT levels to be significantly lower than today.

8 CONSTRUCTION AIR QUALITY

Air quality impacts resulting from roadway construction activities are typically not a concern when contractors utilize appropriate control measures. During construction of the proposed project, all materials resulting from clearing and grubbing, demolition or other operations will be removed from the project, burned or otherwise disposed of by the Contractor. Any burning done will be done in accordance with applicable local laws and ordinances and regulations of the North Carolina SIP for air quality in compliance with 15 NCAC 2D.0520. Care will be taken to ensure burning will be done at the greatest distance practical from dwellings and not when atmospheric conditions are such as to create a hazard to the public. Operational agreements that reduce or redirect work or shift times to avoid community exposures can have positive benefits. Burning will be performed under constant surveillance. Also during construction, measures will be taken to reduce the dust generated by construction when the control of dust is necessary for the protection and comfort of motorists or area residents.

9 CONCLUSION

The primary pollutants from motor vehicles are unburned hydrocarbons, NOx, CO and particulates. These pollutants are regional problems. Wake County was in maintenance with the CO NAAQS when the project was initiated but has since been designated as in attainment. Johnston County is in attainment with the CO NAAQS. Wake and Johnston Counties are in attainment with PM NAAQS and 8-hour Ozone standard.

The hot spot analysis found that the projected CO concentration levels do not violate the NAAQS. For the seventeen DSAs, the 1-hour and 8-hour CO concentrations are not expected to exceed 3.6 and 2.8 ppm (including background contributions), respectively, at any of the sites for the year of opening (2022), five years after opening (2027) and the design year (2035). For the No Build Alternative, the 1-hour and 8-hour CO concentrations are not expected to exceed 3.8 and 3.0 ppm (including background contributions), respectively, at any of the sites for any of the three years investigated.

Since the project is located in an area that is in attainment for particulate matter, a detailed study of particulate matter is not required. It is unlikely that the project will have an effect on particulate matter that would exceed the health-based levels when considering background concentrations.

Mobile Source Air Toxics – In comparing the DSAs, MSAT levels could be higher in some locations than others, but current tools and science are not adequate to quantify them. However, in considering the entire project study area, EPA's vehicle and fuel regulations, coupled with fleet turnover, will over time cause substantial reductions that, in almost all cases, will cause area-wide MSAT levels to be significantly lower than today.

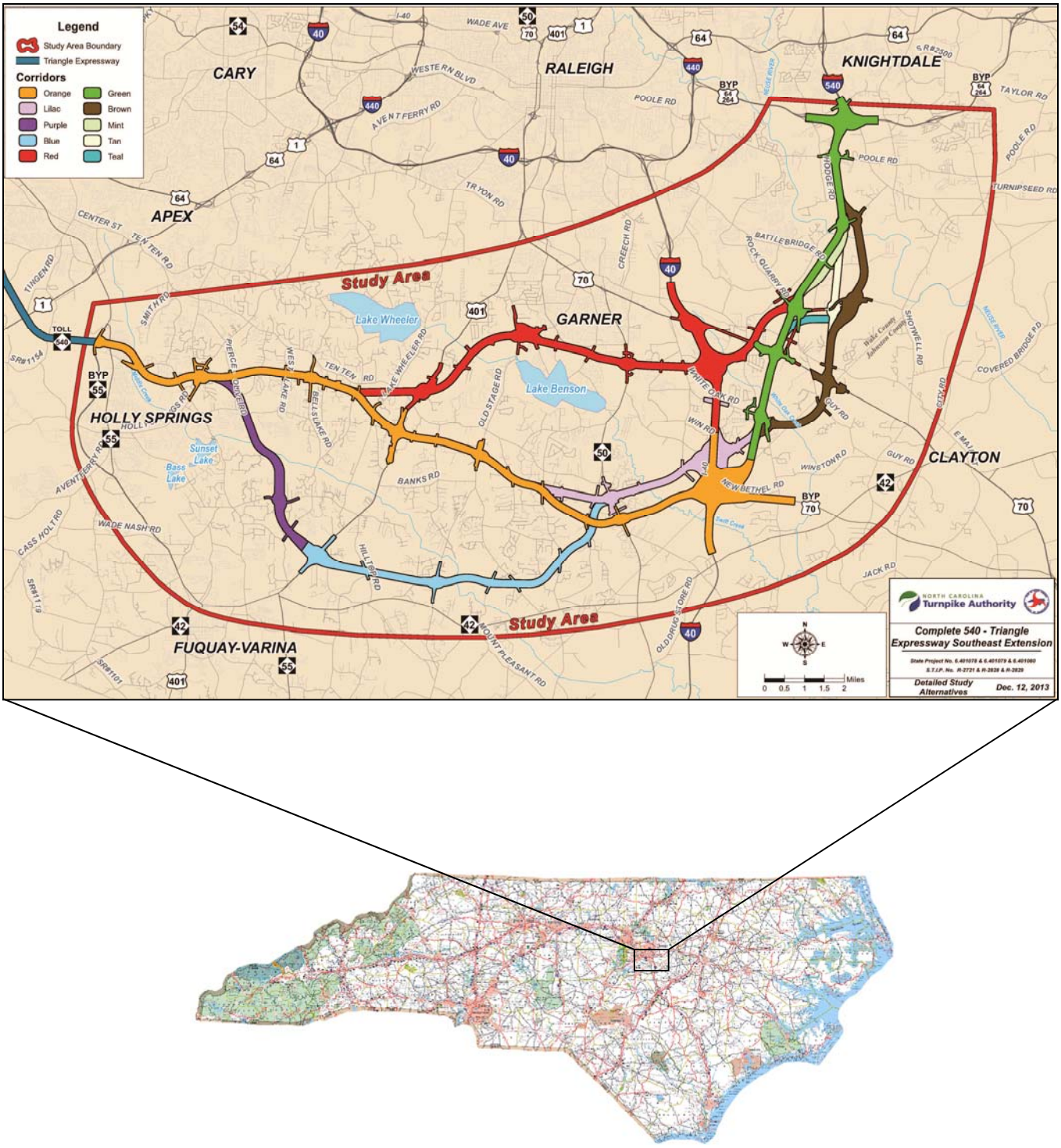
Construction Air Quality – Provided local ordinances for open burning and dust are followed, significant air quality impacts due to construction of the Complete 540 project are not anticipated. There would also be emissions related to construction equipment and vehicles. However, these impacts related to construction would be temporary. The proposed project would be constructed in phases, limiting the overall construction activity occurring at any one location.

Based on the air quality analysis completed for the proposed improvements, the Complete 540 project would not cause or contribute to any violation of the NAAQS.

FIGURES

FIGURE 1

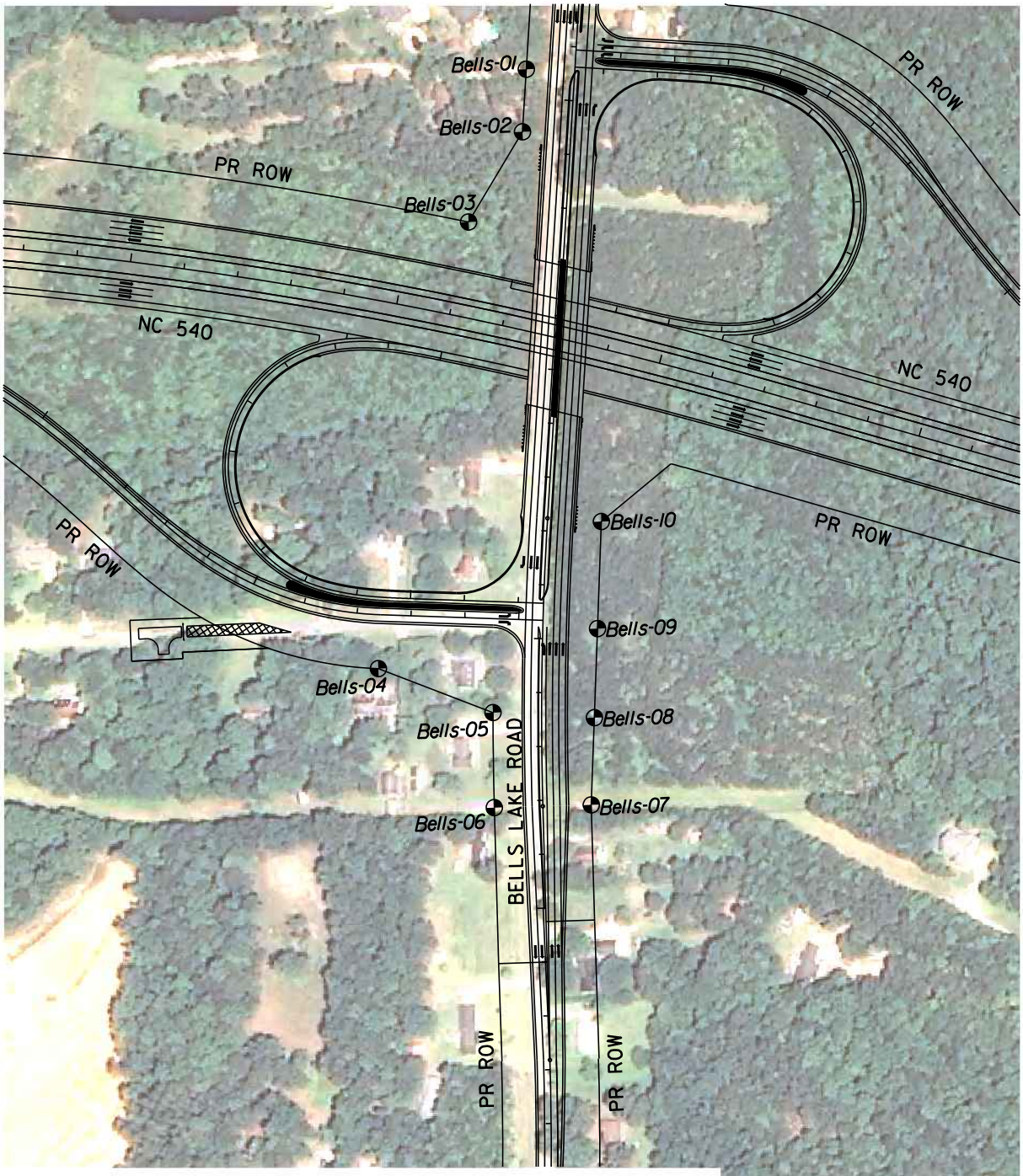
PROJECT LOCATION MAP



Triangle Expressway Southeast Extension
Project Location Map
Figure 1

FIGURE 2

AIR QUALITY ANALYSIS LOCATIONS

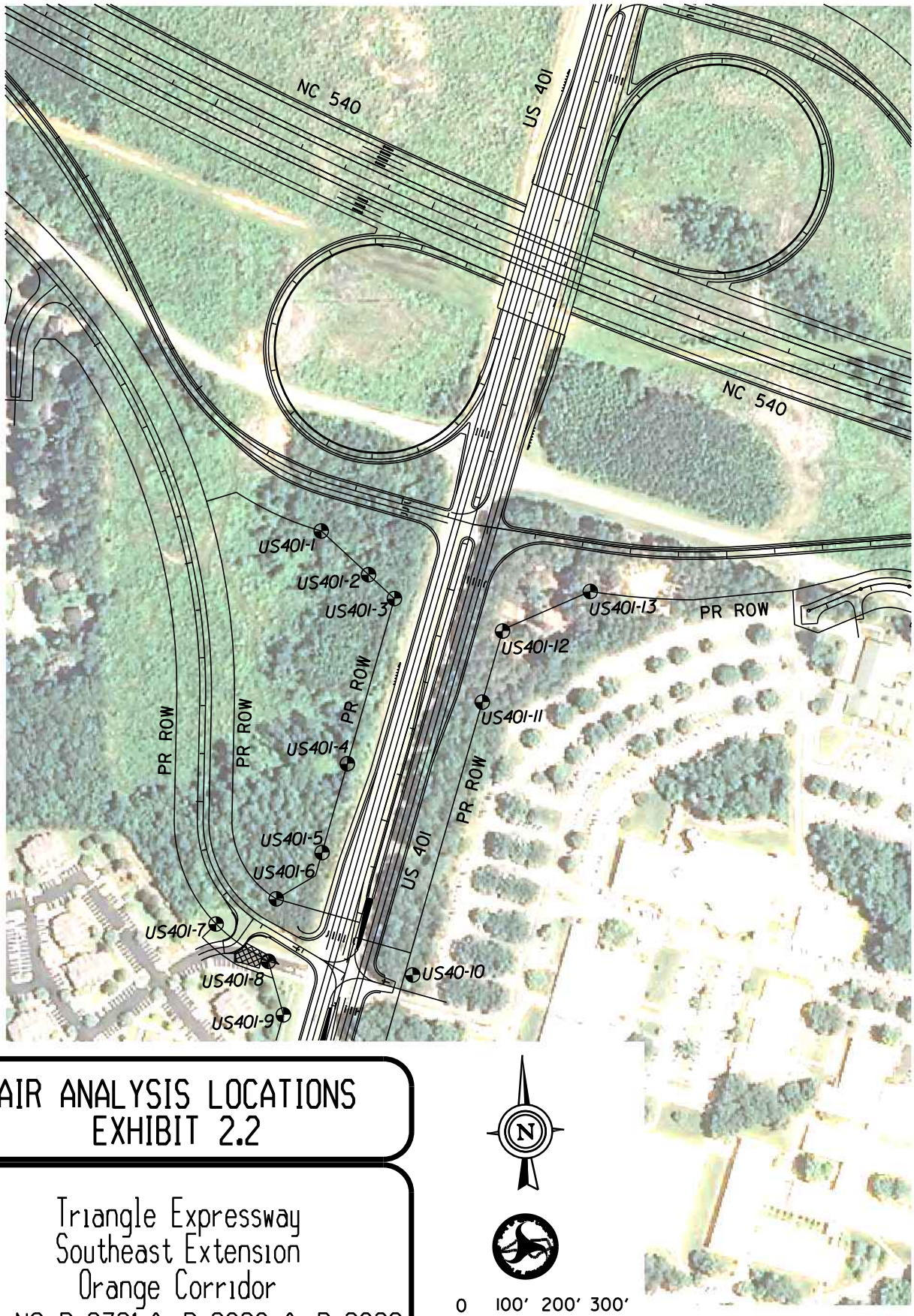


AIR ANALYSIS LOCATIONS
EXHIBIT 2.1

Triangle Expressway
Southeast Extension
Orange Corridor
T.I.P. NO. R-2721 & R-2828 & R-2829

N

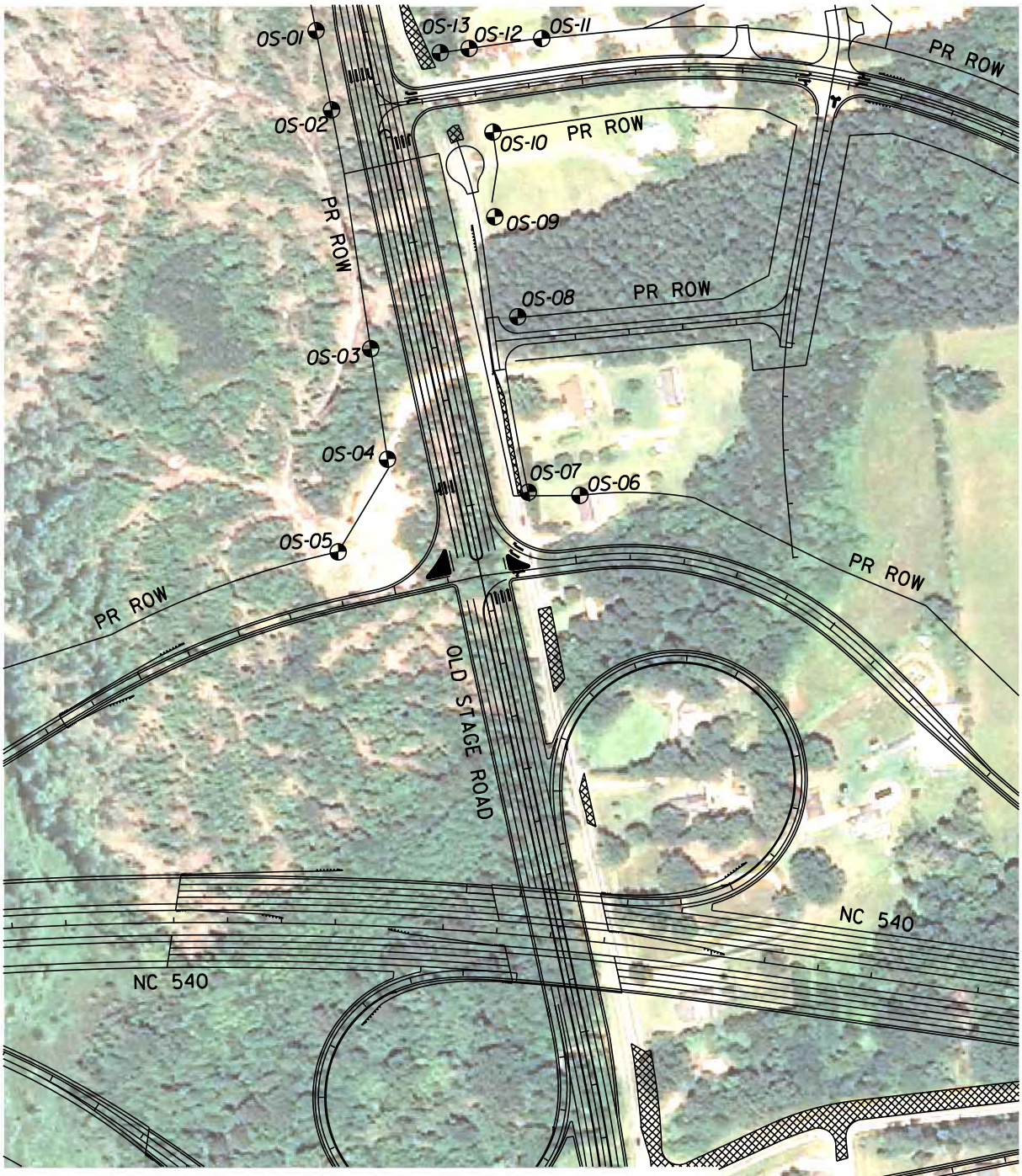
0 100' 200' 300'



AIR ANALYSIS LOCATIONS
EXHIBIT 2.2

Triangle Expressway
Southeast Extension
Orange Corridor

T.I.P. NO. R-2721 & R-2828 & R-2829



AIR ANALYSIS LOCATIONS
EXHIBIT 2.3

Triangle Expressway
Southeast Extension
Red Corridor

T.I.P. NO. R-2721 & R-2828 & R-2829

0 100' 200' 300'

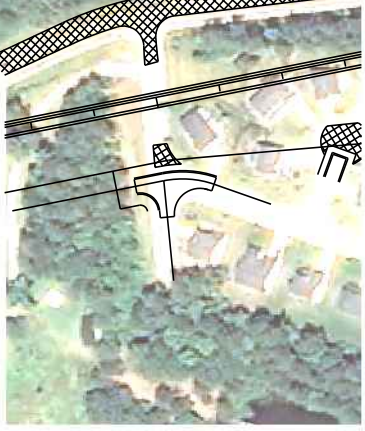
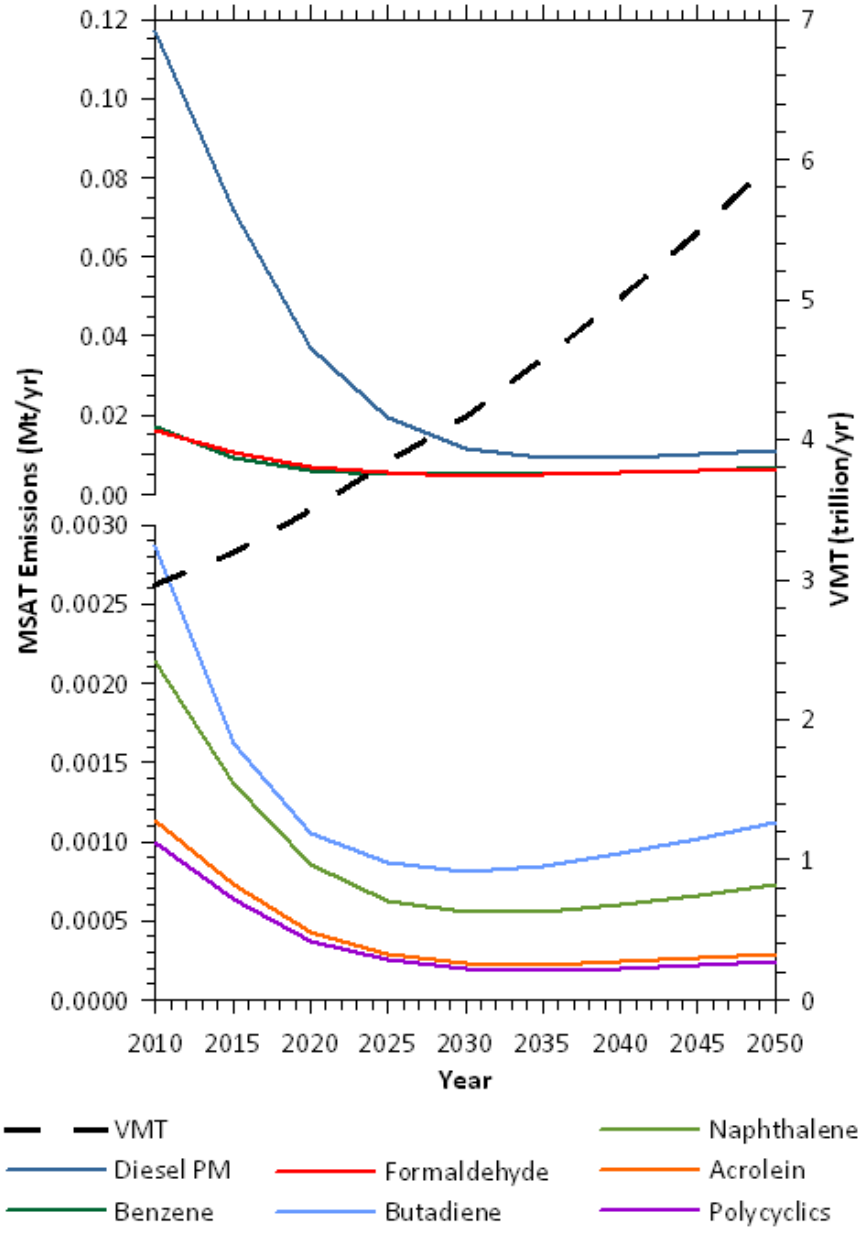


FIGURE 3

NATIONAL MSAT EMISSION TRENDS

Figure 3

NATIONAL MSAT EMISSION TRENDS 1999 - 2050
FOR VEHICLES OPERATING ON ROADWAYS
USING EPA's MOVES2010b MODEL



Note: Trends for specific locations may be different, depending on locally derived information representing vehicle-miles travelled, vehicle speeds, vehicle mix, fuels, emission control programs, meteorology, and other factors

Source: EPA MOVES2010b model runs conducted May to June 2012 by FHWA.

APPENDIX A

MOVE2010b EMISSION FACTORS

movesRunId	yearId	monthId	dayId	hourId	linkId	pollutant	GramsPerVehMile	GramsPerVehHour
1	2022	1	5	18	1	CO		21.05
1	2022	1	5	18	2	CO	4.42	
1	2022	1	5	18	3	CO	3.93	
1	2022	1	5	18	4	CO	4.06	

movesRunId	yearId	monthId	dayId	hourId	linkId	pollutant	GramsPerVehMile	GramsPerVehHour
1	2027	1	5	18	1	CO		16.11
1	2027	1	5	18	2	CO	3.87	
1	2027	1	5	18	3	CO	3.45	
1	2027	1	5	18	4	CO	3.54	

movesRunId	yearId	monthId	dayId	hourId	linkId	pollutant	GramsPerVehMile	GramsPerVehHour
1	2035	1	5	18	1	CO		13.52
1	2035	1	5	18	2	CO	3.68	
1	2035	1	5	18	3	CO	3.27	
1	2035	1	5	18	4	CO	3.35	

APPENDIX B

CAL3QHC CARBON MONOXIDE CONCENTRATIONS

♀ CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated 95221

JOB: Build Bells Lake Rd 2022 RUN: Build Bells Lake Rd 2022

DATE : 7/15/14
TIME : 13:47: 0

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 108. CM
U = 1.0 M/S CLAS = 5 (E) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 PPM

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT)				*	LENGTH	BRG	TYPE	VPH	EF	H	W	V/C	QUEUE
	*	X1	Y1	X2	Y2	*	(FT)	(DEG)			(G/MI)	(FT)	(FT)		(VEH)
1. 1	*	1914.0	1153.0	1827.0	308.0	*	849.	186.	AG	651.	3.9	0.0	32.0		
2. 2	*	1827.0	308.0	1785.0	220.0	*	98.	206.	AG	651.	4.4	0.0	32.0		
3. 3	*	1785.0	220.0	1692.0	189.0	*	98.	252.	AG	651.	4.4	0.0	32.0		
4. 4	*	1692.0	189.0	1615.0	195.0	*	77.	274.	AG	735.	4.4	0.0	32.0		
5. 5	*	1615.0	195.0	1379.0	256.0	*	244.	284.	AG	735.	4.4	0.0	32.0		
6. 6	*	1379.0	256.0	1290.0	393.0	*	163.	327.	AG	735.	4.4	0.0	32.0		
7. 7	*	1290.0	393.0	1325.0	565.0	*	176.	12.	AG	735.	4.4	0.0	32.0		
8. 8	*	1325.0	565.0	1488.0	662.0	*	190.	59.	AG	735.	4.4	0.0	32.0		
9. 9	*	1488.0	662.0	1683.0	639.0	*	196.	97.	AG	735.	3.9	0.0	32.0		
10. 10	*	1683.0	639.0	2845.0	277.0	*	1217.	107.	AG	735.	4.1	0.0	32.0		
11. 11	*	2843.0	290.0	2134.0	524.0	*	747.	288.	AG	788.	4.1	0.0	32.0		
12. 12	*	2134.0	524.0	1069.0	777.0	*	1095.	283.	AG	788.	4.1	0.0	32.0		
13. 13	*	1078.0	788.0	2137.0	536.0	*	1089.	103.	AG	787.	4.1	0.0	32.0		
14. 14	*	2137.0	536.0	2841.0	304.0	*	741.	108.	AG	787.	4.1	0.0	32.0		
15. 15	*	2839.0	317.0	2141.0	547.0	*	735.	288.	AG	787.	4.1	0.0	32.0		
16. 16	*	2141.0	547.0	1087.0	798.0	*	1083.	283.	AG	787.	4.1	0.0	32.0		
17. 17	*	1154.0	870.0	1856.0	716.0	*	719.	102.	AG	413.	4.1	0.0	32.0		
18. 18	*	1856.0	716.0	2819.0	410.0	*	1010.	108.	AG	413.	4.1	0.0	32.0		
19. 19	*	2815.0	424.0	1859.0	727.0	*	1003.								

288. AG 413. 4.1 0.0 32.0
20. 20 * 1859.0 727.0 1164.0 881.0 * 712.
282. AG 413. 4.1 0.0 32.0
21. 21 * 1175.0 891.0 1862.0 739.0 * 704.
102. AG 413. 4.1 0.0 32.0
22. 22 * 1862.0 739.0 2811.0 438.0 * 996.
108. AG 413. 4.1 0.0 32.0
23. 23 * 1187.0 901.0 1865.0 751.0 * 694.
102. AG 70. 4.1 0.0 32.0
24. 24 * 1865.0 751.0 2060.0 697.0 * 202.
105. AG 70. 3.9 0.0 32.0
25. 25 * 2060.0 697.0 2260.0 666.0 * 202.
99. AG 70. 3.9 0.0 32.0
26. 26 * 2260.0 666.0 2428.0 764.0 * 194.
60. AG 70. 4.4 0.0 32.0
27. 27 * 2428.0 764.0 2456.0 956.0 * 194.
8. AG 70. 4.4 0.0 32.0
28. 28 * 2456.0 956.0 2318.0 1102.0 * 201.
317. AG 70. 4.4 0.0 32.0
29. 29 * 2318.0 1102.0 2116.0 1139.0 * 205.
280. AG 70. 4.4 0.0 32.0
30. 30 * 2116.0 1139.0 2023.0 1112.0 * 97.
254. AG 12. 4.4 0.0 32.0
31. 31 * 2023.0 1112.0 1978.0 1027.0 * 96.
208. AG 12. 4.4 0.0 32.0
32. 32 * 1978.0 1027.0 1905.0 324.0 * 707.
186. AG 12. 3.9 0.0 32.0
33. 33 * 1905.0 324.0 1890.0 156.0 * 169.
185. AG 12. 3.9 0.0 32.0
34. 34 * 1890.0 156.0 1875.0 -205.0 * 361.
182. AG 12. 3.9 0.0 32.0
35. 35 * 1875.0 -205.0 1832.0 -844.0 * 640.
184. AG 12. 3.9 0.0 32.0
36. 36 * 1832.0 -844.0 1879.0 157.0 * 1002.
3. AG 134. 3.9 0.0 32.0
37. 37 * 1879.0 157.0 1893.0 325.0 * 169.
5. AG 164. 3.9 0.0 32.0
38. 38 * 1893.0 325.0 1978.0 1147.0 * 826.
6. AG 164. 3.9 0.0 32.0
39. 39 * 1966.0 1148.0 1881.0 326.0 * 826.
186. AG 164. 3.9 0.0 32.0
40. 40 * 1881.0 326.0 1867.0 158.0 * 169.
185. AG 164. 3.9 0.0 32.0
41. 41 * 1867.0 158.0 1832.0 -844.0 * 1003.
182. AG 134. 3.9 0.0 32.0
42. 42 * 1832.0 -844.0 1839.0 -205.0 * 639.
1. AG 84. 3.9 0.0 32.0
43. 43 * 1839.0 -205.0 1855.0 159.0 * 364.
3. AG 84. 3.9 0.0 32.0
44. 44 * 1828.0 179.0 1692.0 195.0 * 137.
277. AG 84. 4.4 0.0 32.0

♀

JOB: Build Bells Lake Rd 2022 RUN: Build Bells Lake Rd 2022

DATE : 7/15/14
TIME : 13:47: 0

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT)				*	LENGTH
BRG TYPE VPH EF H W V/C QUEUE							

				*	X1	Y1	X2	Y2	*	(FT)	
(DEG)		(G/MI)	(FT)	(FT)		(VEH)					
	45.	45			*	1820.0	-844.0	1834.0	96.0	*	940.
1.	AG	335.	3.9	0.0	32.0						
	46.	46			*	1834.0	96.0	1854.0	329.0	*	234.
5.	AG	335.	3.9	0.0	32.0						
	47.	47			*	1854.0	329.0	1938.0	1151.0	*	826.
6.	AG	322.	3.9	0.0	32.0						
	48.	48			*	1926.0	1152.0	1842.0	331.0	*	825.
186.	AG	322.	3.9	0.0	32.0						
	49.	49			*	1842.0	331.0	1822.0	97.0	*	235.
185.	AG	335.	3.9	0.0	32.0						
	50.	50			*	1822.0	97.0	1808.0	-843.0	*	940.
181.	AG	335.	3.9	0.0	32.0						
	51.	51			*	933.0	549.0	1097.0	397.0	*	224.
133.	AG	84.	3.9	0.0	32.0						
	52.	52			*	1097.0	397.0	1248.0	264.0	*	201.
131.	AG	25.	3.9	0.0	32.0						
	53.	53			*	1248.0	264.0	1391.0	190.0	*	161.
117.	AG	25.	3.9	0.0	32.0						
	54.	54			*	1391.0	190.0	1550.0	156.0	*	163.
102.	AG	25.	3.9	0.0	32.0						
	55.	55			*	1550.0	156.0	1825.0	135.0	*	276.
94.	AG	25.	3.9	0.0	32.0						
	56.	56			*	1826.0	147.0	1624.0	162.0	*	203.
274.	AG	59.	3.9	0.0	32.0						
	57.	57			*	1624.0	162.0	1420.0	193.0	*	206.
279.	AG	59.	3.9	0.0	32.0						
	58.	58			*	1420.0	193.0	1254.0	274.0	*	185.
296.	AG	59.	3.9	0.0	32.0						
	59.	59			*	1254.0	274.0	1097.0	397.0	*	199.
308.	AG	59.	3.9	0.0	32.0						
	60.	Q1-NB Bells Thru			*	1966.7	1151.8	1962.1	1106.6	*	45.
186.	AG	32.	100.0	0.0	12.0	0.25	2.3				
	61.	Q2-NB Bells Thru			*	1978.6	1150.6	1974.0	1105.4	*	45.
186.	AG	32.	100.0	0.0	12.0	0.25	2.3				
	62.	Q3-NB Bells to WB540			*	1990.2	1145.8	1990.0	1144.2	*	2.
186.	AG	16.	100.0	0.0	12.0	0.01	0.1				
	63.	Q4-NB Bells Thru&RT			*	1888.7	124.8	1888.3	114.1	*	11.
182.	AG	13.	100.0	0.0	12.0	0.08	0.5				
	64.	Q5-NB Bells Thru&RT			*	1876.7	125.7	1876.3	115.0	*	11.
182.	AG	13.	100.0	0.0	12.0	0.08	0.5				
	65.	Q6-NB Bells Thru&RT			*	1864.8	126.5	1864.4	115.8	*	11.
182.	AG	13.	100.0	0.0	12.0	0.08	0.5				
	66.	Q7-NB Bells to EB540			*	1852.8	127.3	1851.2	89.0	*	38.
182.	AG	50.	100.0	0.0	12.0	0.59	1.9				
	67.	Q8-EB540 to NB Bells			*	1800.3	149.2	1769.2	151.6	*	31.
274.	AG	52.	100.0	0.0	12.0	0.67	1.6				
	68.	Q9-EB540 to SB Bells			*	1799.4	137.3	1789.4	138.1	*	10.
274.	AG	46.	100.0	0.0	12.0	0.09	0.5				
	69.	Q10-SB Bells to EB54			*	1816.8	183.4	1825.1	268.4	*	85.
6.	AG	15.	100.0	0.0	12.0	0.57	4.3				
	70.	Q11-SB Thru			*	1828.8	182.4	1835.3	249.0	*	67.
6.	AG	24.	100.0	0.0	12.0	0.36	3.4				
	71.	Q12-SB Thru			*	1840.7	181.5	1847.2	248.1	*	67.
6.	AG	24.	100.0	0.0	12.0	0.36	3.4				

♀

DATE : 7/15/14
TIME : 13:47: 0

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
60. Q1-NB Bells Thru	*	90	51	0.0	163	1600	21.05	1	3
61. Q2-NB Bells Thru	*	90	51	0.0	163	1600	21.05	1	3
62. Q3-NB Bells to WB540	*	90	25	0.0	12	1600	21.05	1	3
63. Q4-NB Bells Thru&RT	*	90	21	0.0	93	1600	21.05	1	3
64. Q5-NB Bells Thru&RT	*	90	21	0.0	93	1600	21.05	1	3
65. Q6-NB Bells Thru&RT	*	90	21	0.0	93	1600	21.05	1	3
66. Q7-NB Bells to EB540	*	90	80	0.0	84	1600	21.05	1	3
67. Q8-EB540 to NB Bells	*	90	83	0.0	59	1600	21.05	1	3
68. Q9-EB540 to SB Bells	*	90	73	0.0	25	1600	21.05	1	3
69. Q10-SB Bells to EB54	*	90	24	0.0	651	1600	21.05	1	3
70. Q11-SB Thru	*	90	38	0.0	322	1600	21.05	1	3
71. Q12-SB Thru	*	90	38	0.0	322	1600	21.05	1	3

RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (FT) X	Y	Z
1. Bells-1	*	1863.2	1162.4	6.0
2. Bells-2	*	1851.3	1046.7	6.0
3. Bells-3	*	1744.5	883.7	6.0
4. Bells-4	*	1543.3	62.5	6.0
5. Bells-5	*	1750.9	-27.7	6.0
6. Bells-6	*	1744.4	-204.0	6.0
7. Bells-7	*	1923.2	-206.4	6.0
8. Bells-8	*	1937.4	-44.9	6.0
9. Bells-9	*	1949.5	119.9	6.0
10. Bells-10	*	1967.5	318.2	6.0

♀

JOB: Build Bells Lake Rd 2022 RUN: Build Bells Lake Rd 2022

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-355.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10
0.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
35.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40.	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
45.	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
50.	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
55.	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
60.	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
65.	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70.	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75.	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80.	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85.	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90.	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
95.	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100.	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
105.	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
110.	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
115.	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120.	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
125.	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130.	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
135.	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140.	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145.	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150.	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
155.	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160.	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165.	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170.	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175.	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180.	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
185.	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
190.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
195.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
200.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
205.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

♀

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10
210.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

215.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
220.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
225.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
230.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
235.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
240.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
245.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
250.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
255.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
260.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
265.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
270.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
275.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
280.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
285.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
290.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
295.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
300.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
305.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
310.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
315.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
320.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
325.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
330.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
335.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
340.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
345.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
350.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
355.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAX	*	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DEGR.	*	120	40	0	0	0	0	0	0	0	0

THE HIGHEST CONCENTRATION OF 0.10 PPM OCCURRED AT RECEPTOR REC2 .

♀ CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated 95221 PAGE 1

JOB: Build Bells Lake Rd 2027 RUN: Build Bells Lake Rd 2027

DATE : 7/15/14
TIME : 13:47: 1

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 108. CM
U = 1.0 M/S CLAS = 5 (E) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 PPM

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT)				*	LENGTH	BRG	TYPE	VPH	EF	H	W	V/C	QUEUE
	*	X1	Y1	X2	Y2	*	(FT)	(DEG)			(G/MI)	(FT)	(FT)		(VEH)
1. 1	*	1914.0	1153.0	1827.0	308.0	*	849.	186.	AG	699.	3.5	0.0	32.0		
2. 2	*	1827.0	308.0	1785.0	220.0	*	98.	206.	AG	699.	3.9	0.0	32.0		
3. 3	*	1785.0	220.0	1692.0	189.0	*	98.	252.	AG	699.	3.9	0.0	32.0		
4. 4	*	1692.0	189.0	1615.0	195.0	*	77.	274.	AG	801.	3.9	0.0	32.0		
5. 5	*	1615.0	195.0	1379.0	256.0	*	244.	284.	AG	801.	3.9	0.0	32.0		
6. 6	*	1379.0	256.0	1290.0	393.0	*	163.	327.	AG	801.	3.9	0.0	32.0		
7. 7	*	1290.0	393.0	1325.0	565.0	*	176.	12.	AG	801.	3.9	0.0	32.0		
8. 8	*	1325.0	565.0	1488.0	662.0	*	190.	59.	AG	801.	3.9	0.0	32.0		
9. 9	*	1488.0	662.0	1683.0	639.0	*	196.	97.	AG	801.	3.5	0.0	32.0		
10. 10	*	1683.0	639.0	2845.0	277.0	*	1217.	107.	AG	801.	3.5	0.0	32.0		
11. 11	*	2843.0	290.0	2134.0	524.0	*	747.	288.	AG	954.	3.5	0.0	32.0		
12. 12	*	2134.0	524.0	1069.0	777.0	*	1095.	283.	AG	954.	3.5	0.0	32.0		
13. 13	*	1078.0	788.0	2137.0	536.0	*	1089.	103.	AG	952.	3.5	0.0	32.0		
14. 14	*	2137.0	536.0	2841.0	304.0	*	741.	108.	AG	952.	3.5	0.0	32.0		
15. 15	*	2839.0	317.0	2141.0	547.0	*	735.	288.	AG	952.	3.5	0.0	32.0		
16. 16	*	2141.0	547.0	1087.0	798.0	*	1083.	283.	AG	952.	3.5	0.0	32.0		
17. 17	*	1154.0	870.0	1856.0	716.0	*	719.	102.	AG	500.	3.5	0.0	32.0		
18. 18	*	1856.0	716.0	2819.0	410.0	*	1010.	108.	AG	500.	3.5	0.0	32.0		
19. 19	*	2815.0	424.0	1859.0	727.0	*	1003.								

288. AG 499. 3.5 0.0 32.0
20. 20 * 1859.0 727.0 1164.0 881.0 * 712.
282. AG 499. 3.5 0.0 32.0
21. 21 * 1175.0 891.0 1862.0 739.0 * 704.
102. AG 499. 3.5 0.0 32.0
22. 22 * 1862.0 739.0 2811.0 438.0 * 996.
108. AG 499. 3.5 0.0 32.0
23. 23 * 1187.0 901.0 1865.0 751.0 * 694.
102. AG 82. 3.5 0.0 32.0
24. 24 * 1865.0 751.0 2060.0 697.0 * 202.
105. AG 82. 3.5 0.0 32.0
25. 25 * 2060.0 697.0 2260.0 666.0 * 202.
99. AG 82. 3.5 0.0 32.0
26. 26 * 2260.0 666.0 2428.0 764.0 * 194.
60. AG 82. 3.9 0.0 32.0
27. 27 * 2428.0 764.0 2456.0 956.0 * 194.
8. AG 82. 3.9 0.0 32.0
28. 28 * 2456.0 956.0 2318.0 1102.0 * 201.
317. AG 82. 3.9 0.0 32.0
29. 29 * 2318.0 1102.0 2116.0 1139.0 * 205.
280. AG 82. 3.9 0.0 32.0
30. 30 * 2116.0 1139.0 2023.0 1112.0 * 97.
254. AG 12. 3.9 0.0 32.0
31. 31 * 2023.0 1112.0 1978.0 1027.0 * 96.
208. AG 12. 3.9 0.0 32.0
32. 32 * 1978.0 1027.0 1905.0 324.0 * 707.
186. AG 12. 3.5 0.0 32.0
33. 33 * 1905.0 324.0 1890.0 156.0 * 169.
185. AG 12. 3.5 0.0 32.0
34. 34 * 1890.0 156.0 1875.0 -205.0 * 361.
182. AG 12. 3.5 0.0 32.0
35. 35 * 1875.0 -205.0 1832.0 -844.0 * 640.
184. AG 12. 3.5 0.0 32.0
36. 36 * 1832.0 -844.0 1879.0 157.0 * 1002.
3. AG 158. 3.5 0.0 32.0
37. 37 * 1879.0 157.0 1893.0 325.0 * 169.
5. AG 194. 3.5 0.0 32.0
38. 38 * 1893.0 325.0 1978.0 1147.0 * 826.
6. AG 194. 3.5 0.0 32.0
39. 39 * 1966.0 1148.0 1881.0 326.0 * 826.
186. AG 194. 3.5 0.0 32.0
40. 40 * 1881.0 326.0 1867.0 158.0 * 169.
185. AG 194. 3.5 0.0 32.0
41. 41 * 1867.0 158.0 1832.0 -844.0 * 1003.
182. AG 158. 3.5 0.0 32.0
42. 42 * 1832.0 -844.0 1839.0 -205.0 * 639.
1. AG 158. 3.5 0.0 32.0
43. 43 * 1839.0 -205.0 1855.0 159.0 * 364.
3. AG 102. 3.5 0.0 32.0
44. 44 * 1828.0 179.0 1692.0 195.0 * 137.
277. AG 102. 3.9 0.0 32.0

♀

JOB: Build Bells Lake Rd 2027 RUN: Build Bells Lake Rd 2027

DATE : 7/15/14
TIME : 13:47: 1

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT)				*	LENGTH
BRG TYPE VPH EF H W V/C QUEUE							

				*	X1	Y1	X2	Y2	*	(FT)	(DEG)	(G/MI)	(FT)	(FT)	(VEH)
45.	45			*	1820.0	-844.0	1834.0	96.0	*	940.					
1. AG	397.	3.5	0.0	32.0											
46.	46			*	1834.0	96.0	1854.0	329.0	*	234.					
5. AG	397.	3.5	0.0	32.0											
47.	47			*	1854.0	329.0	1938.0	1151.0	*	826.					
6. AG	384.	3.5	0.0	32.0											
48.	48			*	1926.0	1152.0	1842.0	331.0	*	825.					
186. AG	384.	3.5	0.0	32.0											
49.	49			*	1842.0	331.0	1822.0	97.0	*	235.					
185. AG	397.	3.5	0.0	32.0											
50.	50			*	1822.0	97.0	1808.0	-843.0	*	940.					
181. AG	397.	3.5	0.0	32.0											
51.	51			*	933.0	549.0	1097.0	397.0	*	224.					
133. AG	97.	3.5	0.0	32.0											
52.	52			*	1097.0	397.0	1248.0	264.0	*	201.					
131. AG	25.	3.5	0.0	32.0											
53.	53			*	1248.0	264.0	1391.0	190.0	*	161.					
117. AG	25.	3.5	0.0	32.0											
54.	54			*	1391.0	190.0	1550.0	156.0	*	163.					
102. AG	25.	3.5	0.0	32.0											
55.	55			*	1550.0	156.0	1825.0	135.0	*	276.					
94. AG	25.	3.5	0.0	32.0											
56.	56			*	1826.0	147.0	1624.0	162.0	*	203.					
274. AG	72.	3.5	0.0	32.0											
57.	57			*	1624.0	162.0	1420.0	193.0	*	206.					
279. AG	72.	3.5	0.0	32.0											
58.	58			*	1420.0	193.0	1254.0	274.0	*	185.					
296. AG	72.	3.5	0.0	32.0											
59.	59			*	1254.0	274.0	1097.0	397.0	*	199.					
308. AG	72.	3.5	0.0	32.0											
60.	Q1-NB Bells Thru			*	1966.7	1151.8	1961.2	1098.0	*	54.					
186. AG	24.	100.0	0.0	12.0	0.30	2.7									
61.	Q2-NB Bells Thru			*	1978.6	1150.6	1973.1	1096.8	*	54.					
186. AG	24.	100.0	0.0	12.0	0.30	2.7									
62.	Q3-NB Bells to WB540			*	1990.2	1145.8	1990.0	1144.2	*	2.					
186. AG	12.	100.0	0.0	12.0	0.01	0.1									
63.	Q4-NB Bells Thru&RT			*	1888.7	124.8	1888.2	112.3	*	13.					
182. AG	10.	100.0	0.0	12.0	0.09	0.6									
64.	Q5-NB Bells Thru&RT			*	1876.7	125.7	1876.2	113.2	*	13.					
182. AG	10.	100.0	0.0	12.0	0.09	0.6									
65.	Q6-NB Bells Thru&RT			*	1864.8	126.5	1864.3	114.0	*	13.					
182. AG	10.	100.0	0.0	12.0	0.09	0.6									
66.	Q7-NB Bells to EB540			*	1852.8	127.3	1850.7	76.1	*	51.					
182. AG	38.	100.0	0.0	12.0	0.72	2.6									
67.	Q8-EB540 to NB Bells			*	1800.3	149.2	1753.7	152.8	*	47.					
274. AG	40.	100.0	0.0	12.0	0.82	2.4									
68.	Q9-EB540 to SB Bells			*	1799.4	137.3	1789.4	138.1	*	10.					
274. AG	35.	100.0	0.0	12.0	0.09	0.5									
69.	Q10-SB Bells to EB54			*	1816.8	183.4	1825.7	274.7	*	92.					
6. AG	12.	100.0	0.0	12.0	0.61	4.7									
70.	Q11-SB Thru			*	1828.8	182.4	1836.5	261.8	*	80.					
6. AG	18.	100.0	0.0	12.0	0.43	4.1									
71.	Q12-SB Thru			*	1840.7	181.5	1848.5	260.9	*	80.					
6. AG	18.	100.0	0.0	12.0	0.43	4.1									

♀

DATE : 7/15/14
TIME : 13:47: 1

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
60. Q1-NB Bells Thru	*	90	51	0.0	194	1600	16.11	1	3
61. Q2-NB Bells Thru	*	90	51	0.0	194	1600	16.11	1	3
62. Q3-NB Bells to WB540	*	90	25	0.0	12	1600	16.11	1	3
63. Q4-NB Bells Thru&RT	*	90	21	0.0	109	1600	16.11	1	3
64. Q5-NB Bells Thru&RT	*	90	21	0.0	109	1600	16.11	1	3
65. Q6-NB Bells Thru&RT	*	90	21	0.0	109	1600	16.11	1	3
66. Q7-NB Bells to EB540	*	90	80	0.0	102	1600	16.11	1	3
67. Q8-EB540 to NB Bells	*	90	83	0.0	72	1600	16.11	1	3
68. Q9-EB540 to SB Bells	*	90	73	0.0	25	1600	16.11	1	3
69. Q10-SB Bells to EB54	*	90	24	0.0	699	1600	16.11	1	3
70. Q11-SB Thru	*	90	38	0.0	384	1600	16.11	1	3
71. Q12-SB Thru	*	90	38	0.0	384	1600	16.11	1	3

RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (FT) X	Y	Z
1. Bells-1	*	1863.2	1162.4	6.0
2. Bells-2	*	1851.3	1046.7	6.0
3. Bells-3	*	1744.5	883.7	6.0
4. Bells-4	*	1543.3	62.5	6.0
5. Bells-5	*	1750.9	-27.7	6.0
6. Bells-6	*	1744.4	-204.0	6.0
7. Bells-7	*	1923.2	-206.4	6.0
8. Bells-8	*	1937.4	-44.9	6.0
9. Bells-9	*	1949.5	119.9	6.0
10. Bells-10	*	1967.5	318.2	6.0

♀

JOB: Build Bells Lake Rd 2027 RUN: Build Bells Lake Rd 2027

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-355.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10
0.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
35.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40.	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
45.	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
50.	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
55.	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
60.	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
65.	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70.	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75.	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80.	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85.	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90.	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
95.	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100.	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
105.	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
110.	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
115.	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120.	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
125.	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130.	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
135.	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140.	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145.	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150.	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
155.	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160.	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165.	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170.	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175.	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180.	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
185.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
190.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
195.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
200.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
205.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

♀

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10
210.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

215.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
220.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
225.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
230.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
235.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
240.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
245.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
250.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
255.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
260.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
265.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
270.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
275.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
280.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
285.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
290.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
295.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
300.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
305.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
310.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
315.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
320.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
325.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
330.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
335.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
340.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
345.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
350.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
355.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAX	*	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DEGR.	*	125	40	0	0	0	0	0	0	0	0

THE HIGHEST CONCENTRATION OF 0.10 PPM OCCURRED AT RECEPTOR REC2 .

♀ CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated 95221

JOB: Build Bells Lake Rd 2035 RUN: Build Bells Lake Rd 2035

DATE : 7/15/14
TIME : 13:47: 1

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 108. CM
U = 1.0 M/S CLAS = 5 (E) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 PPM

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT)				*	LENGTH	BRG	TYPE	VPH	EF	H	W	V/C	QUEUE
	*	X1	Y1	X2	Y2	*	(FT)	(DEG)			(G/MI)	(FT)	(FT)		(VEH)
1. 1	*	1914.0	1153.0	1827.0	308.0	*	849.	186.	AG	891.	3.3	0.0	32.0		
2. 2	*	1827.0	308.0	1785.0	220.0	*	98.	206.	AG	891.	3.3	0.0	32.0		
3. 3	*	1785.0	220.0	1692.0	189.0	*	98.	252.	AG	891.	3.3	0.0	32.0		
4. 4	*	1692.0	189.0	1615.0	195.0	*	77.	274.	AG	1315.	3.7	0.0	32.0		
5. 5	*	1615.0	195.0	1379.0	256.0	*	244.	284.	AG	1315.	3.7	0.0	32.0		
6. 6	*	1379.0	256.0	1290.0	393.0	*	163.	327.	AG	1315.	3.7	0.0	32.0		
7. 7	*	1290.0	393.0	1325.0	565.0	*	176.	12.	AG	1315.	3.7	0.0	32.0		
8. 8	*	1325.0	565.0	1488.0	662.0	*	190.	59.	AG	1315.	3.7	0.0	32.0		
9. 9	*	1488.0	662.0	1683.0	639.0	*	196.	97.	AG	1315.	3.7	0.0	32.0		
10. 10	*	1683.0	639.0	2845.0	277.0	*	1217.	107.	AG	1315.	3.3	0.0	32.0		
11. 11	*	2843.0	290.0	2134.0	524.0	*	747.	288.	AG	1036.	3.3	0.0	32.0		
12. 12	*	2134.0	524.0	1069.0	777.0	*	1095.	283.	AG	1036.	3.3	0.0	32.0		
13. 13	*	1078.0	788.0	2137.0	536.0	*	1089.	103.	AG	1036.	3.3	0.0	32.0		
14. 14	*	2137.0	536.0	2841.0	304.0	*	741.	108.	AG	1036.	3.3	0.0	32.0		
15. 15	*	2839.0	317.0	2141.0	547.0	*	735.	288.	AG	1036.	3.3	0.0	32.0		
16. 16	*	2141.0	547.0	1087.0	798.0	*	1083.	283.	AG	1036.	3.3	0.0	32.0		
17. 17	*	1154.0	870.0	1856.0	716.0	*	719.	102.	AG	520.	3.3	0.0	32.0		
18. 18	*	1856.0	716.0	2819.0	410.0	*	1010.	108.	AG	520.	3.3	0.0	32.0		
19. 19	*	2815.0	424.0	1859.0	727.0	*	1003.								

288.	AG	520.	3.3	0.0	32.0						
	20.	20				*	1859.0	727.0	1164.0	881.0	* 712.
282.	AG	520.	3.3	0.0	32.0						
	21.	21				*	1175.0	891.0	1862.0	739.0	* 704.
102.	AG	520.	3.3	0.0	32.0						
	22.	22				*	1862.0	739.0	2811.0	438.0	* 996.
108.	AG	520.	3.3	0.0	32.0						
	23.	23				*	1187.0	901.0	1865.0	751.0	* 694.
102.	AG	386.	3.3	0.0	32.0						
	24.	24				*	1865.0	751.0	2060.0	697.0	* 202.
105.	AG	386.	3.3	0.0	32.0						
	25.	25				*	2060.0	697.0	2260.0	666.0	* 202.
99.	AG	386.	3.3	0.0	32.0						
	26.	26				*	2260.0	666.0	2428.0	764.0	* 194.
60.	AG	386.	3.7	0.0	32.0						
	27.	27				*	2428.0	764.0	2456.0	956.0	* 194.
8.	AG	386.	3.7	0.0	32.0						
	28.	28				*	2456.0	956.0	2318.0	1102.0	* 201.
317.	AG	386.	3.7	0.0	32.0						
	29.	29				*	2318.0	1102.0	2116.0	1139.0	* 205.
280.	AG	386.	3.7	0.0	32.0						
	30.	30				*	2116.0	1139.0	2023.0	1112.0	* 97.
254.	AG	239.	3.7	0.0	32.0						
	31.	31				*	2023.0	1112.0	1978.0	1027.0	* 96.
208.	AG	239.	3.7	0.0	32.0						
	32.	32				*	1978.0	1027.0	1905.0	324.0	* 707.
186.	AG	239.	3.3	0.0	32.0						
	33.	33				*	1905.0	324.0	1890.0	156.0	* 169.
185.	AG	239.	3.3	0.0	32.0						
	34.	34				*	1890.0	156.0	1875.0	-205.0	* 361.
182.	AG	239.	3.3	0.0	32.0						
	35.	35				*	1875.0	-205.0	1832.0	-844.0	* 640.
184.	AG	239.	3.3	0.0	32.0						
	36.	36				*	1832.0	-844.0	1879.0	157.0	* 1002.
3.	AG	443.	3.3	0.0	32.0						
	37.	37				*	1879.0	157.0	1893.0	325.0	* 169.
5.	AG	443.	3.3	0.0	32.0						
	38.	38				*	1893.0	325.0	1978.0	1147.0	* 826.
6.	AG	517.	3.3	0.0	32.0						
	39.	39				*	1966.0	1148.0	1881.0	326.0	* 826.
186.	AG	517.	3.3	0.0	32.0						
	40.	40				*	1881.0	326.0	1867.0	158.0	* 169.
185.	AG	517.	3.3	0.0	32.0						
	41.	41				*	1867.0	158.0	1832.0	-844.0	* 1003.
182.	AG	443.	3.3	0.0	32.0						
	42.	42				*	1832.0	-844.0	1839.0	-205.0	* 639.
1.	AG	443.	3.3	0.0	32.0						
	43.	43				*	1839.0	-205.0	1855.0	159.0	* 364.
3.	AG	424.	3.7	0.0	32.0						
	44.	44				*	1828.0	179.0	1692.0	195.0	* 137.
277.	AG	424.	3.3	0.0	32.0						

♀

JOB: Build Bells Lake Rd 2035 RUN: Build Bells Lake Rd 2035

DATE : 7/15/14
TIME : 13:47: 1

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT)	*	LENGTH

BRG TYPE VPH EF H W V/C QUEUE

				*	X1	Y1	X2	Y2	*	(FT)	
(DEG)		(G/MI)	(FT)	(FT)		(VEH)					
	45. 45			*	1820.0	-844.0	1834.0	96.0	*	940.	
1. AG	1388.	3.3	0.0	32.0							
	46. 46			*	1834.0	96.0	1854.0	329.0	*	234.	
5. AG	1138.	3.3	0.0	32.0							
	47. 47			*	1854.0	329.0	1938.0	1151.0	*	826.	
6. AG	1138.	3.3	0.0	32.0							
	48. 48			*	1926.0	1152.0	1842.0	331.0	*	825.	
186. AG	1138.	3.3	0.0	32.0							
	49. 49			*	1842.0	331.0	1822.0	97.0	*	235.	
185. AG	1138.	3.3	0.0	32.0							
	50. 50			*	1822.0	97.0	1808.0	-843.0	*	940.	
181. AG	1388.	3.3	0.0	32.0							
	51. 51			*	933.0	549.0	1097.0	397.0	*	224.	
133. AG	649.	3.3	0.0	32.0							
	52. 52			*	1097.0	397.0	1248.0	264.0	*	201.	
131. AG	500.	3.3	0.0	32.0							
	53. 53			*	1248.0	264.0	1391.0	190.0	*	161.	
117. AG	500.	3.3	0.0	32.0							
	54. 54			*	1391.0	190.0	1550.0	156.0	*	163.	
102. AG	500.	3.3	0.0	32.0							
	55. 55			*	1550.0	156.0	1825.0	135.0	*	276.	
94. AG	500.	3.3	0.0	32.0							
	56. 56			*	1826.0	147.0	1624.0	162.0	*	203.	
274. AG	149.	3.3	0.0	32.0							
	57. 57			*	1624.0	162.0	1420.0	193.0	*	206.	
279. AG	149.	3.3	0.0	32.0							
	58. 58			*	1420.0	193.0	1254.0	274.0	*	185.	
296. AG	149.	3.3	0.0	32.0							
	59. 59			*	1254.0	274.0	1097.0	397.0	*	199.	
308. AG	149.	3.3	0.0	32.0							
	60. Q1-NB Bells Thru			*	1966.7	1151.8	1951.4	1003.1	*	149.	
186. AG	21. 100.0		0.0	12.0	0.79	7.6					
	61. Q2-NB Bells Thru			*	1978.6	1150.6	1963.3	1001.9	*	149.	
186. AG	21. 100.0		0.0	12.0	0.79	7.6					
	62. Q3-NB Bells to WB540			*	1990.2	1145.8	1986.9	1113.3	*	33.	
186. AG	10. 100.0		0.0	12.0	0.21	1.7					
	63. Q4-NB Bells Thru&RT			*	1888.7	124.8	1886.9	81.8	*	43.	
182. AG	8. 100.0		0.0	12.0	0.31	2.2					
	64. Q5-NB Bells Thru&RT			*	1876.7	125.7	1874.9	82.7	*	43.	
182. AG	8. 100.0		0.0	12.0	0.31	2.2					
	65. Q6-NB Bells Thru&RT			*	1864.8	126.5	1863.0	83.5	*	43.	
182. AG	8. 100.0		0.0	12.0	0.31	2.2					
	66. Q7-NB Bells to EB540			*	1852.8	127.3	1724.7	-3005.1	*	3135.	
182. AG	32. 100.0		0.0	12.0	2.99	159.3					
	67. Q8-EB540 to NB Bells			*	1800.3	149.2	1056.7	205.9	*	746.	
274. AG	33. 100.0		0.0	12.0	1.69	37.9					
	68. Q9-EB540 to SB Bells			*	1799.4	137.3	-845.3	338.9	*	2652.	
274. AG	29. 100.0		0.0	12.0	1.88	134.7					
	69. Q10-SB Bells to EB54			*	1816.8	183.4	1828.1	299.8	*	117.	
6. AG	10. 100.0		0.0	12.0	0.78	5.9					
	70. Q11-SB Thru			*	1828.8	182.4	2107.8	3052.4	*	2884.	
6. AG	15. 100.0		0.0	12.0	1.28	146.5					
	71. Q12-SB Thru			*	1840.7	181.5	2120.8	3051.4	*	2884.	
6. AG	15. 100.0		0.0	12.0	1.28	146.5					

♀

DATE : 7/15/14
TIME : 13:47: 1

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
60. Q1-NB Bells Thru	*	90	51	0.0	517	1600	13.52	1	3
61. Q2-NB Bells Thru	*	90	51	0.0	517	1600	13.52	1	3
62. Q3-NB Bells to WB540	*	90	25	0.0	239	1600	13.52	1	3
63. Q4-NB Bells Thru&RT	*	90	21	0.0	375	1600	13.52	1	3
64. Q5-NB Bells Thru&RT	*	90	21	0.0	375	1600	13.52	1	3
65. Q6-NB Bells Thru&RT	*	90	21	0.0	375	1600	13.52	1	3
66. Q7-NB Bells to EB540	*	90	80	0.0	424	1600	13.52	1	3
67. Q8-EB540 to NB Bells	*	90	83	0.0	149	1600	13.52	1	3
68. Q9-EB540 to SB Bells	*	90	73	0.0	500	1600	13.52	1	3
69. Q10-SB Bells to EB54	*	90	24	0.0	891	1600	13.52	1	3
70. Q11-SB Thru	*	90	38	0.0	1138	1600	13.52	1	3
71. Q12-SB Thru	*	90	38	0.0	1138	1600	13.52	1	3

RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (FT) X	Y	Z	*
1. Bells-1	*	1863.2	1162.4	6.0	*
2. Bells-2	*	1851.3	1046.7	6.0	*
3. Bells-3	*	1744.5	883.7	6.0	*
4. Bells-4	*	1543.3	62.5	6.0	*
5. Bells-5	*	1750.9	-27.7	6.0	*
6. Bells-6	*	1744.4	-204.0	6.0	*
7. Bells-7	*	1923.2	-206.4	6.0	*
8. Bells-8	*	1937.4	-44.9	6.0	*
9. Bells-9	*	1949.5	119.9	6.0	*
10. Bells-10	*	1967.5	318.2	6.0	*

♀

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-355.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10
0.	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
5.	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
10.	0.0	0.0	0.0	0.1	0.2	0.0	0.0	0.0	0.0	0.0
15.	0.0	0.0	0.0	0.1	0.2	0.2	0.0	0.0	0.0	0.0
20.	0.0	0.0	0.0	0.0	0.2	0.2	0.0	0.0	0.0	0.0
25.	0.0	0.0	0.0	0.0	0.2	0.2	0.0	0.0	0.0	0.0
30.	0.0	0.0	0.0	0.0	0.2	0.2	0.0	0.0	0.0	0.0
35.	0.0	0.1	0.0	0.0	0.2	0.2	0.0	0.0	0.0	0.0
40.	0.0	0.2	0.0	0.0	0.2	0.2	0.0	0.0	0.0	0.0
45.	0.0	0.3	0.0	0.0	0.2	0.2	0.0	0.0	0.0	0.0
50.	0.0	0.3	0.0	0.0	0.2	0.2	0.0	0.0	0.0	0.0
55.	0.0	0.3	0.0	0.0	0.2	0.2	0.0	0.0	0.0	0.0
60.	0.0	0.3	0.0	0.0	0.2	0.2	0.0	0.0	0.0	0.0
65.	0.0	0.3	0.0	0.0	0.2	0.2	0.0	0.0	0.0	0.0
70.	0.0	0.3	0.0	0.0	0.2	0.2	0.0	0.0	0.0	0.0
75.	0.0	0.3	0.0	0.0	0.2	0.2	0.0	0.0	0.0	0.1
80.	0.0	0.3	0.0	0.0	0.2	0.2	0.0	0.0	0.0	0.1
85.	0.0	0.3	0.0	0.0	0.2	0.2	0.0	0.0	0.0	0.0
90.	0.0	0.3	0.0	0.0	0.2	0.2	0.0	0.0	0.0	0.0
95.	0.0	0.3	0.0	0.0	0.2	0.2	0.0	0.0	0.0	0.0
100.	0.0	0.3	0.0	0.0	0.2	0.2	0.0	0.0	0.0	0.0
105.	0.0	0.3	0.0	0.0	0.2	0.2	0.0	0.0	0.0	0.0
110.	0.2	0.3	0.0	0.0	0.2	0.2	0.0	0.0	0.0	0.0
115.	0.3	0.3	0.0	0.0	0.2	0.2	0.0	0.0	0.0	0.0
120.	0.3	0.3	0.0	0.0	0.2	0.2	0.0	0.0	0.0	0.0
125.	0.3	0.3	0.0	0.0	0.2	0.2	0.0	0.0	0.0	0.0
130.	0.3	0.3	0.0	0.0	0.2	0.2	0.0	0.0	0.0	0.0
135.	0.3	0.3	0.0	0.0	0.2	0.2	0.0	0.0	0.0	0.0
140.	0.3	0.3	0.0	0.0	0.2	0.2	0.0	0.0	0.0	0.0
145.	0.3	0.3	0.0	0.0	0.2	0.2	0.0	0.0	0.0	0.0
150.	0.3	0.3	0.1	0.0	0.2	0.2	0.0	0.0	0.0	0.0
155.	0.3	0.3	0.1	0.0	0.3	0.3	0.0	0.0	0.0	0.0
160.	0.3	0.3	0.1	0.0	0.3	0.3	0.0	0.0	0.0	0.0
165.	0.3	0.3	0.0	0.0	0.3	0.3	0.0	0.0	0.0	0.0
170.	0.3	0.3	0.0	0.0	0.3	0.3	0.0	0.0	0.0	0.0
175.	0.3	0.3	0.0	0.0	0.3	0.3	0.0	0.0	0.0	0.0
180.	0.3	0.3	0.0	0.0	0.2	0.1	0.0	0.0	0.0	0.0
185.	0.2	0.2	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1
190.	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3
195.	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3
200.	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3
205.	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.2

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WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10
210.	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.0

215.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.2	0.2	0.0
220.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.1
225.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2
230.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2
235.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.1
240.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2
245.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2
250.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0	0.1
255.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0	0.0
260.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0	0.0
265.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0	0.0
270.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.0
275.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.0
280.	*	0.0	0.0	0.0	0.1	0.0	0.0	0.2	0.2	0.2	0.0
285.	*	0.0	0.0	0.0	0.1	0.0	0.0	0.2	0.2	0.3	0.0
290.	*	0.0	0.0	0.0	0.1	0.0	0.0	0.2	0.2	0.0	0.0
295.	*	0.0	0.0	0.0	0.1	0.0	0.0	0.2	0.2	0.1	0.0
300.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.1
305.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.1
310.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2
315.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.2	0.2
320.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.1	0.2
325.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.1	0.2
330.	*	0.0	0.0	0.0	0.1	0.0	0.0	0.2	0.0	0.0	0.2
335.	*	0.0	0.0	0.0	0.1	0.0	0.0	0.3	0.1	0.0	0.2
340.	*	0.0	0.0	0.0	0.1	0.0	0.0	0.2	0.1	0.0	0.2
345.	*	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.2	0.2
350.	*	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.2	0.2
355.	*	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.2	0.2
MAX	*	0.3	0.3	0.1	0.1	0.3	0.3	0.3	0.3	0.3	0.3
DEGR.	*	115	45	150	0	155	155	190	190	190	190

THE HIGHEST CONCENTRATION OF 0.30 PPM OCCURRED AT RECEPTOR REC2 .

♀ CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated 95221 PAGE 1

JOB: No BUild Bells Lake Rd 2022 RUN: No Build Bells Lake Rd 2022

DATE : 7/15/14
TIME : 13:47: 0

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 108. CM
U = 1.0 M/S CLAS = 5 (E) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 PPM

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT)				*	LENGTH	BRG	TYPE	VPH	EF	H	W	V/C	QUEUE
	*	X1	Y1	X2	Y2	*	(FT)	(DEG)			(G/MI)	(FT)	(FT)		(VEH)
1. 1	*	1909.0	1153.0	1824.0	138.0	*	1019.	185.	AG	663.	3.9	0.0	32.0		
2. 2	*	1824.0	138.0	1803.0	-843.0	*	981.	181.	AG	663.	3.9	0.0	32.0		
3. 3	*	1815.0	-844.0	1836.0	137.0	*	981.	1.	AG	357.	3.9	0.0	32.0		
4. 4	*	1836.0	137.0	1921.0	1152.0	*	1019.	5.	AG	357.	3.9	0.0	32.0		

♀ PAGE 2

JOB: No BUild Bells Lake Rd 2022 RUN: No Build Bells Lake Rd 2022

DATE : 7/15/14
TIME : 13:47: 0

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE	RED	CLEARANCE	APPROACH	SATURATION	IDLE	SIGNAL	ARRIVAL
	*	LENGTH	TIME	LOST TIME	VOL	FLOW RATE	EM FAC	TYPE	RATE
	*	(SEC)	(SEC)	(SEC)	(VPH)	(VPH)	(gm/hr)		

RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (FT) X	Y	Z	*
1. Bells-1	*	1863.2	1162.4	6.0	*
2. Bells-2	*	1851.3	1046.7	6.0	*
3. Bells-3	*	1744.5	883.7	6.0	*
4. Bells-4	*	1543.3	62.5	6.0	*

5.	Bells-5	*	1750.9	-27.7	6.0 *
6.	Bells-6	*	1744.4	-204.0	6.0 *
7.	Bells-7	*	1923.2	-206.4	6.0 *
8.	Bells-8	*	1937.4	-44.9	6.0 *
9.	Bells-9	*	1949.5	119.9	6.0 *
10.	Bells-10	*	1967.5	318.2	6.0 *

♀

JOB: No BUild Bells Lake Rd 2022 RUN: No Build Bells Lake Rd 2022

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-355.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10
0.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10.	* 0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
15.	* 0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
20.	* 0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
25.	* 0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
30.	* 0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
35.	* 0.0	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
40.	* 0.0	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
45.	* 0.0	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
50.	* 0.0	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
55.	* 0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
60.	* 0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
65.	* 0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70.	* 0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75.	* 0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80.	* 0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85.	* 0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90.	* 0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
95.	* 0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100.	* 0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
105.	* 0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
110.	* 0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
115.	* 0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120.	* 0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
125.	* 0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130.	* 0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
135.	* 0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
140.	* 0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
145.	* 0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
150.	* 0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
155.	* 0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
160.	* 0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
165.	* 0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
170.	* 0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
175.	* 0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
180.	* 0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
185.	* 0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

190.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
195.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
200.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
205.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0

♀

JOB: No BUild Bells Lake Rd 2022 RUN: No Build Bells Lake Rd 2022

WIND ANGLE (DEGR)	*	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10
210.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
215.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
220.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
225.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
230.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
235.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
240.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
245.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
250.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
255.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
260.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
265.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
270.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
275.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
280.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
285.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
290.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
295.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
300.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
305.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
310.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
315.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
320.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
325.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
330.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
335.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
340.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
345.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
350.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
355.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAX	*	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0
DEGR.	*	115	35	0	0	10	20	205	0	0	0

THE HIGHEST CONCENTRATION OF 0.10 PPM OCCURRED AT RECEPTOR REC5 .

♀ CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated 95221 PAGE 1

JOB: No Build Bells Lake Rd 2027 RUN: No Build Bells Lake Rd 2027

DATE : 7/15/14
TIME : 13:47: 0

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 108. CM
U = 1.0 M/S CLAS = 5 (E) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 PPM

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT)				*	LENGTH	BRG	TYPE	VPH	EF	H	W	V/C	QUEUE
	*	X1	Y1	X2	Y2	*	(FT)	(DEG)			(G/MI)	(FT)	(FT)		(VEH)
1. 1	*	1909.0	1153.0	1824.0	138.0	*	1019.	185.	AG	803.	3.5	0.0	32.0		
2. 2	*	1824.0	138.0	1803.0	-843.0	*	981.	181.	AG	803.	3.5	0.0	32.0		
3. 3	*	1815.0	-844.0	1836.0	137.0	*	981.	1.	AG	433.	3.5	0.0	32.0		
4. 4	*	1836.0	137.0	1921.0	1152.0	*	1019.	5.	AG	433.	3.5	0.0	32.0		

♀ PAGE 2

JOB: No Build Bells Lake Rd 2027 RUN: No Build Bells Lake Rd 2027

DATE : 7/15/14
TIME : 13:47: 0

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE	RED	CLEARANCE	APPROACH	SATURATION	IDLE	SIGNAL	ARRIVAL
	*	LENGTH	TIME	LOST TIME	VOL	FLOW RATE	EM FAC	TYPE	RATE
	*	(SEC)	(SEC)	(SEC)	(VPH)	(VPH)	(gm/hr)		

RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (FT) X	Y	Z	*
1. Bells-1	*	1863.2	1162.4	6.0	*
2. Bells-2	*	1851.3	1046.7	6.0	*
3. Bells-3	*	1744.5	883.7	6.0	*
4. Bells-4	*	1543.3	62.5	6.0	*

5. Bells-5	*	1750.9	-27.7	6.0 *
6. Bells-6	*	1744.4	-204.0	6.0 *
7. Bells-7	*	1923.2	-206.4	6.0 *
8. Bells-8	*	1937.4	-44.9	6.0 *
9. Bells-9	*	1949.5	119.9	6.0 *
10. Bells-10	*	1967.5	318.2	6.0 *

♀

JOB: No Build Bells Lake Rd 2027 RUN: No Build Bells Lake Rd 2027

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-355.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10
0.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5.	* 0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
10.	* 0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
15.	* 0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
20.	* 0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
25.	* 0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
30.	* 0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
35.	* 0.0	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
40.	* 0.0	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
45.	* 0.0	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
50.	* 0.0	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
55.	* 0.0	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
60.	* 0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
65.	* 0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70.	* 0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
75.	* 0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
80.	* 0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
85.	* 0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90.	* 0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
95.	* 0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100.	* 0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
105.	* 0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
110.	* 0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
115.	* 0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
120.	* 0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
125.	* 0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
130.	* 0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
135.	* 0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
140.	* 0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
145.	* 0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
150.	* 0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
155.	* 0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
160.	* 0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
165.	* 0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
170.	* 0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
175.	* 0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
180.	* 0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
185.	* 0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

190.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
195.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
200.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0
205.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0

♀

JOB: No Build Bells Lake Rd 2027 RUN: No Build Bells Lake Rd 2027

WIND ANGLE (DEGR)	*	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10
210.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
215.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
220.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
225.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
230.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
235.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
240.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
245.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
250.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
255.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
260.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
265.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
270.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
275.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
280.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
285.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
290.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
295.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
300.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
305.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
310.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
315.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
320.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
325.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
330.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
335.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
340.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
345.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0
350.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0
355.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAX	*	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0
DEGR.	*	115	35	0	0	5	20	200	200	200	0

THE HIGHEST CONCENTRATION OF 0.10 PPM OCCURRED AT RECEPTOR REC5 .

♀ CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated 95221

JOB: No Build Bells Lake Rd 2035 RUN: No Build Bells Lake Rd 2035

DATE : 7/15/14
TIME : 13:47: 0

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 108. CM
U = 1.0 M/S CLAS = 5 (E) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 PPM

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT)				*	LENGTH	BRG	TYPE	VPH	EF	H	W	V/C	QUEUE
	*	X1	Y1	X2	Y2	*	(FT)	(DEG)			(G/MI)	(FT)	(FT)		(VEH)
1. 1	*	1909.0	1153.0	1824.0	138.0	*	1019.	185.	AG	1030.	3.3	0.0	32.0		
2. 2	*	1824.0	138.0	1803.0	-843.0	*	981.	181.	AG	1030.	3.3	0.0	32.0		
3. 3	*	1815.0	-844.0	1836.0	137.0	*	981.	1.	AG	554.	3.3	0.0	32.0		
4. 4	*	1836.0	137.0	1921.0	1152.0	*	1019.	5.	AG	554.	3.3	0.0	32.0		

♀

JOB: No Build Bells Lake Rd 2035 RUN: No Build Bells Lake Rd 2035

DATE : 7/15/14
TIME : 13:47: 0

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE	RED	CLEARANCE	APPROACH	SATURATION	IDLE	SIGNAL	ARRIVAL
	*	LENGTH	TIME	LOST TIME	VOL	FLOW RATE	EM FAC	TYPE	RATE
	*	(SEC)	(SEC)	(SEC)	(VPH)	(VPH)	(gm/hr)		

RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (FT) X	Y	Z	*
1. Bells-1	*	1863.2	1162.4	6.0	*
2. Bells-2	*	1851.3	1046.7	6.0	*
3. Bells-3	*	1744.5	883.7	6.0	*
4. Bells-4	*	1543.3	62.5	6.0	*

5. Bells-5	*	1750.9	-27.7	6.0 *
6. Bells-6	*	1744.4	-204.0	6.0 *
7. Bells-7	*	1923.2	-206.4	6.0 *
8. Bells-8	*	1937.4	-44.9	6.0 *
9. Bells-9	*	1949.5	119.9	6.0 *
10. Bells-10	*	1967.5	318.2	6.0 *

♀

JOB: No Build Bells Lake Rd 2035 RUN: No Build Bells Lake Rd 2035

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-355.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10
0.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5.	* 0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
10.	* 0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
15.	* 0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
20.	* 0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
25.	* 0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
30.	* 0.0	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
35.	* 0.0	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
40.	* 0.0	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
45.	* 0.0	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
50.	* 0.0	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
55.	* 0.0	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
60.	* 0.0	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
65.	* 0.0	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
70.	* 0.0	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
75.	* 0.0	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
80.	* 0.0	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
85.	* 0.0	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
90.	* 0.0	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
95.	* 0.0	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
100.	* 0.0	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
105.	* 0.0	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
110.	* 0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
115.	* 0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
120.	* 0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
125.	* 0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
130.	* 0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
135.	* 0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
140.	* 0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
145.	* 0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
150.	* 0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
155.	* 0.1	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0
160.	* 0.2	0.2	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0
165.	* 0.2	0.2	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0
170.	* 0.2	0.2	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
175.	* 0.2	0.2	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
180.	* 0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
185.	* 0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

190.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
195.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1
200.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1
205.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1

♀

JOB: No Build Bells Lake Rd 2035 RUN: No Build Bells Lake Rd 2035

WIND ANGLE (DEGR)	*	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10
210.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0
215.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0
220.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0
225.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
230.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
235.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
240.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
245.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
250.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
255.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
260.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
265.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
270.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
275.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
280.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
285.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
290.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
295.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
300.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
305.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
310.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
315.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
320.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
325.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1
330.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1
335.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1
340.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1
345.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1
350.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1
355.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0
MAX	*	0.2	0.2	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1
DEGR.	*	160	160	155	0	5	5	195	195	195	195

THE HIGHEST CONCENTRATION OF 0.20 PPM OCCURRED AT RECEPTOR REC1 .

♀ CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated 95221

JOB: BUild Fayetteville 2022 RUN: BUild Fayetteville 2022

DATE : 7/15/14
TIME : 13:47: 2

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 108. CM
U = 1.0 M/S CLAS = 5 (E) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 PPM

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT)				*	LENGTH	BRG	TYPE	VPH	EF	H	W	V/C	QUEUE
	*	X1	Y1	X2	Y2	*	(FT)	(DEG)			(G/MI)	(FT)	(FT)		(VEH)
1. 1	*	1544.0	1804.0	1501.0	1714.0	*	100.	206.	AG	156.	3.9	0.0	32.0		
2. 2	*	1501.0	1714.0	1346.0	1244.0	*	495.	198.	AG	156.	3.9	0.0	32.0		
3. 3	*	1341.0	1246.0	1198.0	1099.0	*	205.	224.	AG	156.	4.4	0.0	32.0		
4. 4	*	1198.0	1099.0	1009.0	1119.0	*	190.	276.	AG	156.	4.4	0.0	32.0		
5. 5	*	1009.0	1119.0	902.0	1277.0	*	191.	326.	AG	156.	4.4	0.0	32.0		
6. 6	*	902.0	1277.0	954.0	1460.0	*	190.	16.	AG	156.	4.4	0.0	32.0		
7. 7	*	954.0	1460.0	1127.0	1539.0	*	190.	65.	AG	156.	4.4	0.0	32.0		
8. 8	*	1127.0	1539.0	1315.0	1481.0	*	197.	107.	AG	156.	4.4	0.0	32.0		
9. 9	*	1315.0	1481.0	1393.0	1442.0	*	87.	117.	AG	156.	4.1	0.0	32.0		
10. 10	*	1393.0	1442.0	1459.0	1411.0	*	73.	115.	AG	156.	4.1	0.0	32.0		
11. 11	*	1459.0	1411.0	2298.0	1061.0	*	909.	113.	AG	156.	4.1	0.0	32.0		
12. 12	*	2297.0	1075.0	1464.0	1422.0	*	902.	293.	AG	857.	4.1	0.0	32.0		
13. 13	*	1464.0	1422.0	764.0	1780.0	*	786.	297.	AG	857.	4.1	0.0	32.0		
14. 14	*	776.0	1788.0	1469.0	1433.0	*	779.	117.	AG	856.	4.1	0.0	32.0		
15. 15	*	1469.0	1433.0	2295.0	1088.0	*	895.	113.	AG	856.	4.1	0.0	32.0		
16. 16	*	2293.0	1102.0	1474.0	1444.0	*	888.	293.	AG	856.	4.1	0.0	32.0		
17. 17	*	1474.0	1444.0	788.0	1795.0	*	771.	297.	AG	856.	4.1	0.0	32.0		
18. 18	*	873.0	1841.0	1500.0	1522.0	*	703.	117.	AG	421.	4.1	0.0	32.0		
19. 19	*	1500.0	1522.0	2272.0	1197.0	*	838.								

113.	AG	421.	4.1	0.0	32.0								
	20.	20				*	2268.0	1211.0	1503.0	1534.0	*	830.	
293.	AG	420.	4.1	0.0	32.0								
	21.	21				*	1503.0	1534.0	887.0	1848.0	*	691.	
297.	AG	420.	4.1	0.0	32.0								
	22.	22				*	900.0	1854.0	1508.0	1545.0	*	682.	
117.	AG	420.	4.1	0.0	32.0								
	23.	23				*	1508.0	1545.0	2264.0	1226.0	*	821.	
113.	AG	420.	4.1	0.0	32.0								
	24.	24				*	914.0	1860.0	1512.0	1556.0	*	671.	
117.	AG	229.	4.1	0.0	32.0								
	25.	25				*	1512.0	1556.0	1758.0	1445.0	*	270.	
114.	AG	229.	4.1	0.0	32.0								
	26.	26				*	1758.0	1445.0	1895.0	1436.0	*	137.	
94.	AG	229.	4.4	0.0	32.0								
	27.	27				*	1895.0	1436.0	2000.0	1490.0	*	118.	
63.	AG	229.	4.4	0.0	32.0								
	28.	28				*	2000.0	1490.0	2074.0	1672.0	*	196.	
22.	AG	229.	4.4	0.0	32.0								
	29.	29				*	2074.0	1672.0	1978.0	1844.0	*	197.	
331.	AG	229.	4.4	0.0	32.0								
	30.	30				*	1978.0	1844.0	1786.0	1878.0	*	195.	
280.	AG	229.	4.4	0.0	32.0								
	31.	31				*	1786.0	1878.0	1632.0	1748.0	*	202.	
230.	AG	229.	4.4	0.0	32.0								
	32.	32				*	1632.0	1748.0	1470.0	1256.0	*	518.	
198.	AG	229.	3.9	0.0	32.0								
	33.	33				*	1470.0	1256.0	1428.0	1166.0	*	99.	
205.	AG	229.	3.9	0.0	32.0								
	34.	34				*	1035.0	22.0	1207.0	498.0	*	506.	
20.	AG	612.	3.9	0.0	32.0								
	35.	35				*	1207.0	498.0	1360.0	962.0	*	489.	
18.	AG	155.	3.9	0.0	32.0								
	36.	36				*	1360.0	962.0	1428.0	1166.0	*	215.	
18.	AG	508.	3.9	0.0	32.0								
	37.	37				*	1428.0	1166.0	1662.0	1874.0	*	746.	
18.	AG	279.	3.9	0.0	32.0								
	38.	38				*	1650.0	1878.0	1349.0	965.0	*	961.	
198.	AG	508.	3.9	0.0	32.0								
	39.	39				*	1349.0	965.0	1024.0	-19.0	*	1036.	
198.	AG	612.	3.9	0.0	32.0								
	40.	40				*	1012.0	-15.0	1338.0	969.0	*	1037.	
18.	AG	612.	3.9	0.0	32.0								
	41.	41				*	1338.0	969.0	1639.0	1882.0	*	961.	
18.	AG	508.	3.9	0.0	32.0								
	42.	42				*	1599.0	1896.0	1298.0	982.0	*	962.	
198.	AG	986.	3.9	0.0	32.0								
	43.	43				*	1298.0	982.0	1174.0	606.0	*	396.	
198.	AG	1088.	3.9	0.0	32.0								
	44.	44				*	961.0	1.0	1286.0	986.0	*	1037.	
18.	AG	1088.	3.9	0.0	32.0								

♀

JOB: BUild Fayetteville 2022 RUN: BUild Fayetteville 2022

DATE : 7/15/14
TIME : 13:47: 2

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT)	*	LENGTH

BRG TYPE VPH EF H W V/C QUEUE

```
                                   *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*----------------------------------------*------------------
----------------------------------------
      45. 45                       *  1286.0     986.0    1588.0    1899.0 *     962.
18. AG   986.   3.9   0.0 32.0
      46. 46                       *  1576.0    1902.0    1275.0     990.0 *     960.
198. AG   986.   3.9   0.0 32.0
      47. 47                       *  1275.0     990.0     950.0       5.0 *    1037.
198. AG  1088.   3.9   0.0 32.0
      48. 48                       *   457.0    1469.0     573.0    1292.0 *     212.
147. AG   266.   3.9   0.0 32.0
      49. 49                       *   573.0    1292.0     656.0    1105.0 *     205.
156. AG   266.   3.9   0.0 32.0
      50. 50                       *   656.0    1105.0     708.0     910.0 *     202.
165. AG   266.   3.9   0.0 32.0
      51. 51                       *   708.0     910.0     730.0     710.0 *     201.
174. AG   266.   3.9   0.0 32.0
      52. 52                       *   730.0     710.0     722.0     502.0 *     208.
182. AG   266.   3.9   0.0 32.0
      53. 53                       *   722.0     502.0     716.0     297.0 *     205.
182. AG   266.   3.9   0.0 32.0
      54. 54                       *   716.0     297.0     753.0     198.0 *     106.
160. AG   266.   3.9   0.0 32.0
      55. 55                       *   753.0     198.0     828.0     122.0 *     107.
135. AG   266.   3.9   0.0 32.0
      56. 56                       *   828.0     122.0     959.0      32.0 *     159.
124. AG   266.   3.9   0.0 32.0
      57. 57                       *   963.0      44.0     835.0     132.0 *     155.
305. AG   183.   3.9   0.0 32.0
      58. 58                       *   835.0     132.0     750.0     227.0 *     127.
318. AG   183.   3.9   0.0 32.0
      59. 59                       *   750.0     227.0     725.0     351.0 *     126.
349. AG   183.   3.9   0.0 32.0
      60. 60                       *   725.0     351.0     735.0     503.0 *     152.
 4. AG   183.   3.9   0.0 32.0
      61. 61                       *   735.0     503.0     742.0     717.0 *     214.
 2. AG   183.   3.9   0.0 32.0
      62. 62                       *   742.0     717.0     719.0     916.0 *     200.
353. AG   183.   3.9   0.0 32.0
      63. 63                       *   719.0     916.0     667.0    1110.0 *     201.
345. AG   183.   3.9   0.0 32.0
      64. 64                       *   667.0    1110.0     586.0    1293.0 *     200.
336. AG   183.   3.9   0.0 32.0
      65. 65                       *   586.0    1293.0     464.0    1480.0 *     223.
327. AG   183.   3.9   0.0 32.0
      66. 66                       *   563.0    1609.0     641.0    1432.0 *     193.
156. AG   606.   3.9   0.0 32.0
      67. 67                       *   641.0    1432.0     730.0    1252.0 *     201.
154. AG   606.   3.9   0.0 32.0
      68. 68                       *   730.0    1252.0     803.0    1163.0 *     115.
141. AG   606.   3.9   0.0 32.0
      69. 69                       *   803.0    1163.0     993.0    1037.0 *     228.
124. AG   230.   3.9   0.0 32.0
      70. 70                       *   993.0    1037.0    1261.0     948.0 *     282.
108. AG   230.   3.9   0.0 32.0
      71. 71                       *  1257.0     937.0    1015.0    1017.0 *     255.
288. AG   231.   3.9   0.0 32.0
      72. 72                       *  1015.0    1017.0     911.0    1063.0 *     114.
294. AG   231.   3.9   0.0 32.0
      73. 73                       *   911.0    1063.0     803.0    1163.0 *     147.
313. AG   231.   3.9   0.0 32.0
```

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      74. 74                    *    803.0    1163.0     923.0    1084.0 *     144.
123. AG    145.   3.9   0.0 32.0
      75. 75                    *    923.0    1084.0    1096.0    1015.0 *     186.
112. AG    145.   3.9   0.0 32.0
      76. 76                    *   1096.0    1015.0    1271.0     958.0 *     184.
108. AG    145.   3.9   0.0 32.0
      77. 77                    *   2303.0     875.0    2103.0     866.0 *     200.
267. AG    457.   3.9   0.0 32.0
      78. 78                    *   2103.0     866.0    1894.0     859.0 *     209.
268. AG    457.   3.9   0.0 32.0
      79. 79                    *   1894.0     859.0    1686.0     865.0 *     208.
272. AG    457.   3.9   0.0 32.0
      80. 80                    *   1686.0     865.0    1470.0     902.0 *     219.
280. AG    457.   3.9   0.0 32.0
      81. 81                    *   1470.0     902.0    1390.0     893.0 *      81.
264. AG    457.   3.9   0.0 32.0
      82. 82                    *   1390.0     893.0    1332.0     838.0 *      80.
227. AG    457.   3.9   0.0 32.0
      83. 83                    *   1332.0     838.0    1250.0     589.0 *     262.
198. AG    457.   3.9   0.0 32.0
      84. 84                    *   1250.0     589.0    1207.0     498.0 *     101.
205. AG    457.   3.9   0.0 32.0
      85. 85                    *   1174.0     606.0    1154.0     508.0 *     100.
192. AG    330.   3.9   0.0 32.0
      86. 86                    *   1154.0     508.0    1053.0     203.0 *     321.
198. AG    330.   3.9   0.0 32.0
      87. 87                    *   1053.0     203.0    1019.0      68.0 *     139.
194. AG    330.   3.9   0.0 32.0
      88. 88                    *   1174.0     606.0     972.0      -2.0 *     641.
198. AG    758.   3.9   0.0 32.0
      89. Q1-NB401 Thru         *   1671.2    1979.1    1646.1    1903.0 *      80.
198. AG     17. 100.0   0.0 12.0 0.43   4.1
      90. Q2-NB401 Thru         *   1682.6    1975.4    1657.5    1899.3 *      80.
198. AG     17. 100.0   0.0 12.0 0.43   4.1
      91. Q3-NB401 Thru         *   1694.0    1971.6    1668.9    1895.5 *      80.
198. AG     17. 100.0   0.0 12.0 0.43   4.1
      92. Q4-SB401 Thru         *   1276.7     994.1    1369.2    1274.4 *     295.
18. AG     19. 100.0   0.0 12.0 0.97  15.0
      93. Q5-SB401 Thru         *   1288.1     990.4    1380.6    1270.7 *     295.
18. AG     19. 100.0   0.0 12.0 0.97  15.0
      94. Q6-SB401 Thru         *   1299.5     986.6    1392.0    1266.9 *     295.
18. AG     19. 100.0   0.0 12.0 0.97  15.0
      95. Q7-NB401 RT           *   1346.8     881.2    1317.8     793.4 *      92.
198. AG     19. 100.0   0.0 12.0 0.48   4.7
♀
```


JOB: BUild Fayetteville 2022 RUN: BUild Fayetteville 2022

DATE : 7/15/14
TIME : 13:47: 2

LINK VARIABLES

```
        LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
                               *   X1        Y1        X2        Y2     *     (FT)
(DEG)           (G/MI)  (FT) (FT)       (VEH)

------------------------*-----------------------------------------*-----------------
---------------------------------------
      96. Q8-NB401 Thru         *   1335.4     884.9    1306.3     796.7 *      93.
198. AG     19. 100.0   0.0 12.0 0.48   4.7
```

```
      97. Q9-NB401 Thru       *   1324.0     888.7    1294.9     800.5 *      93.
198. AG     19. 100.0   0.0 12.0 0.48   4.7
      98. Q10-NB401 Thru      *   1312.6     892.5    1283.5     804.3 *      93.
198. AG     19. 100.0   0.0 12.0 0.48   4.7
      99. Q11-EB540 to NB540  *   1250.2     965.0    1184.4     986.7 *      69.
288. AG     45. 100.0   0.0 12.0 0.62   3.5
     100. Q12-EB540 to SB540  *   1246.4     953.6    1073.8    1010.6 *     182.
288. AG     45. 100.0   0.0 12.0 1.00   9.2
     101. Q13-EB540 to SB540  *   1242.7     942.2    1070.1     999.1 *     182.
288. AG     45. 100.0   0.0 12.0 1.00   9.2
     102. Q14-EB Donny        *    925.5      57.4    -503.0    1042.4 *    1735.
305. AG     49. 100.0   0.0 12.0 2.29  88.1
     103. Q15-WB Donny        *   1060.6       4.2    3458.3    -786.6 *    2525.
108. AG     49. 100.0   0.0 12.0 2.92 128.3
     104. Q16-SB401atDonny LT *   1019.9      70.4    1677.0    2253.1 *    2279.
17. AG     48. 100.0   0.0 12.0 2.54 115.8
     105. Q17-SB401atDonny    *    993.0      58.0    1340.0    1109.2 *    1107.
18. AG     22. 100.0   0.0 12.0 1.08  56.2
     106. Q18-SB401atDonny    *    981.6      61.7    1328.6    1112.9 *    1107.
18. AG     22. 100.0   0.0 12.0 1.08  56.2
     107. Q19-SB401atDonny    *    970.2      65.5    1317.2    1116.7 *    1107.
18. AG     22. 100.0   0.0 12.0 1.08  56.2
     108. Q20-SB401atDonny RT *    958.8      69.3     967.2      94.8 *      27.
18. AG     22. 100.0   0.0 12.0 0.13   1.4
♀
```


JOB: BUild Fayetteville 2022 RUN: BUild Fayetteville 2022

DATE : 7/15/14
TIME : 13:47: 2

ADDITIONAL QUEUE LINK PARAMETERS

```
        LINK DESCRIPTION     *    CYCLE    RED     CLEARANCE  APPROACH  SATURATION
 IDLE   SIGNAL   ARRIVAL
                             *    LENGTH   TIME    LOST TIME    VOL     FLOW RATE
EM FAC   TYPE     RATE
                             *     (SEC)   (SEC)    (SEC)      (VPH)      (VPH)
(gm/hr)

-------------------------*-------------------------------------------------------
---------------------
      89. Q1-NB401 Thru      *     110       34       5.0       431       1600
21.05      1        3
      90. Q2-NB401 Thru      *     110       34       5.0       431       1600
21.05      1        3
      91. Q3-NB401 Thru      *     110       34       5.0       431       1600
21.05      1        3
      92. Q4-SB401 Thru      *     110       37       5.0       934       1600
21.05      1        3
      93. Q5-SB401 Thru      *     110       37       5.0       934       1600
21.05      1        3
      94. Q6-SB401 Thru      *     110       37       5.0       934       1600
21.05      1        3
      95. Q7-NB401 RT        *     110       37       5.0       457       1600
21.05      1        3
      96. Q8-NB401 Thru      *     110       37       5.0       459       1600
21.05      1        3
      97. Q9-NB401 Thru      *     110       37       5.0       459       1600
21.05      1        3
      98. Q10-NB401 Thru     *     110       37       5.0       459       1600
21.05      1        3
```

99.	Q11-EB540 to NB540	*	110	87	5.0	145	1600
21.05	1	3					
100.	Q12-EB540 to SB540	*	110	87	5.0	231	1600
21.05	1	3					
101.	Q13-EB540 to SB540	*	110	87	5.0	231	1600
21.05	1	3					
102.	Q14-EB Donny	*	110	95	5.0	266	1600
21.05	1	3					
103.	Q15-WB Donny	*	110	95	5.0	339	1600
21.05	1	3					
104.	Q16-SB401atDonny LT	*	110	94	5.0	330	1600
21.05	1	3					
105.	Q17-SB401atDonny	*	110	43	5.0	946	1600
21.05	1	3					
106.	Q18-SB401atDonny	*	110	43	5.0	946	1600
21.05	1	3					
107.	Q19-SB401atDonny	*	110	43	5.0	946	1600
21.05	1	3					
108.	Q20-SB401atDonny RT	*	110	43	5.0	114	1600
21.05	1	3					

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. US401-1	990.0	939.2	6.0
2. US401-2	1084.6	844.3	6.0
3. US401-3	1136.4	792.3	6.0
4. US401-4	1024.3	452.7	6.0
5. US401-5	964.0	270.1	6.0
6. US401-6	864.8	177.7	6.0
7. US401-7	737.4	130.6	6.0
8. US401-8	843.1	48.5	6.0
9. US401-9	869.5	-64.1	6.0
10. US401-10	1141.9	7.6	6.0
11. US401-11	1310.2	569.3	6.0
12. US401-12	1358.4	715.4	6.0
13. US401-13	1544.3	790.2	6.0

♀

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-355.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13
0.	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.4	0.1	0.4	0.0

5.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.2	0.3	0.4
0.0													
10.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.1	0.2
0.0													
15.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0
0.0													
20.	*	0.0	0.0	0.3	0.1	0.2	0.0	0.1	0.1	0.3	0.0	0.0	0.0
0.0													
25.	*	0.0	0.1	0.4	0.3	0.3	0.1	0.1	0.4	0.5	0.0	0.0	0.0
0.0													
30.	*	0.0	0.4	0.4	0.4	0.3	0.3	0.1	0.4	0.4	0.0	0.0	0.0
0.0													
35.	*	0.0	0.4	0.5	0.4	0.3	0.3	0.1	0.4	0.4	0.0	0.0	0.0
0.0													
40.	*	0.0	0.4	0.3	0.4	0.4	0.3	0.1	0.4	0.4	0.0	0.0	0.0
0.0													
45.	*	0.0	0.4	0.4	0.3	0.4	0.3	0.1	0.4	0.3	0.0	0.0	0.0
0.0													
50.	*	0.0	0.1	0.4	0.3	0.4	0.3	0.1	0.4	0.3	0.0	0.0	0.0
0.0													
55.	*	0.0	0.1	0.4	0.3	0.4	0.2	0.1	0.4	0.0	0.0	0.0	0.0
0.0													
60.	*	0.0	0.0	0.4	0.3	0.4	0.2	0.1	0.3	0.0	0.0	0.0	0.0
0.0													
65.	*	0.2	0.1	0.4	0.3	0.4	0.2	0.1	0.3	0.0	0.0	0.0	0.0
0.0													
70.	*	0.2	0.2	0.4	0.3	0.4	0.2	0.1	0.3	0.0	0.0	0.0	0.0
0.0													
75.	*	0.2	0.2	0.4	0.3	0.3	0.2	0.1	0.3	0.0	0.0	0.0	0.0
0.0													
80.	*	0.2	0.2	0.4	0.3	0.3	0.2	0.1	0.3	0.1	0.0	0.0	0.0
0.0													
85.	*	0.1	0.2	0.4	0.3	0.3	0.2	0.1	0.2	0.1	0.0	0.0	0.0
0.0													
90.	*	0.0	0.1	0.4	0.3	0.3	0.1	0.1	0.2	0.1	0.0	0.0	0.0
0.0													
95.	*	0.0	0.1	0.4	0.3	0.3	0.1	0.1	0.3	0.1	0.0	0.0	0.0
0.0													
100.	*	0.0	0.1	0.4	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.0
0.0													
105.	*	0.0	0.1	0.4	0.3	0.2	0.1	0.2	0.1	0.1	0.1	0.0	0.0
0.0													
110.	*	0.0	0.1	0.4	0.3	0.2	0.2	0.2	0.1	0.0	0.2	0.0	0.0
0.0													
115.	*	0.0	0.1	0.4	0.3	0.2	0.2	0.2	0.1	0.0	0.2	0.0	0.0
0.0													
120.	*	0.0	0.1	0.4	0.3	0.4	0.2	0.0	0.0	0.0	0.2	0.0	0.0
0.0													
125.	*	0.0	0.1	0.4	0.3	0.4	0.2	0.0	0.0	0.0	0.2	0.0	0.0
0.0													
130.	*	0.0	0.2	0.4	0.3	0.4	0.2	0.0	0.0	0.0	0.2	0.0	0.0
0.0													
135.	*	0.0	0.2	0.4	0.3	0.3	0.1	0.0	0.0	0.0	0.2	0.0	0.0
0.0													
140.	*	0.0	0.2	0.4	0.3	0.3	0.1	0.0	0.0	0.0	0.1	0.0	0.0
0.0													
145.	*	0.0	0.2	0.4	0.3	0.3	0.0	0.0	0.0	0.0	0.1	0.0	0.0
0.0													
150.	*	0.0	0.2	0.4	0.4	0.4	0.0	0.0	0.0	0.0	0.1	0.0	0.0
0.0													
155.	*	0.0	0.2	0.4	0.4	0.3	0.1	0.0	0.0	0.0	0.1	0.0	0.0
0.0													
160.	*	0.0	0.3	0.4	0.4	0.3	0.1	0.0	0.0	0.0	0.1	0.0	0.0

0.0
 165. * 0.0 0.3 0.4 0.4 0.3 0.1 0.0 0.0 0.0 0.1 0.0 0.0
0.0
 170. * 0.0 0.3 0.3 0.4 0.2 0.1 0.0 0.0 0.0 0.1 0.0 0.0
0.0
 175. * 0.0 0.3 0.3 0.4 0.2 0.1 0.0 0.0 0.0 0.1 0.0 0.0
0.0
 180. * 0.0 0.2 0.4 0.3 0.2 0.1 0.0 0.0 0.0 0.1 0.0 0.0
0.0
 185. * 0.0 0.2 0.4 0.2 0.1 0.1 0.0 0.0 0.0 0.1 0.0 0.0
0.0
 190. * 0.0 0.0 0.3 0.2 0.0 0.1 0.0 0.0 0.0 0.1 0.0 0.0
0.0
 195. * 0.0 0.0 0.2 0.0 0.0 0.1 0.0 0.0 0.0 0.1 0.0 0.0
0.0
 200. * 0.0 0.0 0.0 0.0 0.0 0.1 0.0 0.0 0.0 0.1 0.0 0.0
0.0
 205. * 0.0 0.0 0.0 0.0 0.0 0.1 0.0 0.0 0.0 0.1 0.0 0.0
0.0
♀

JOB: BUild Fayetteville 2022 RUN: BUild Fayetteville 2022

 WIND * CONCENTRATION
 ANGLE * (PPM)
 (DEGR)* REC1 REC2 REC3 REC4 REC5 REC6 REC7 REC8 REC9 REC10 REC11 REC12 REC13

------*---
-
 210. * 0.0 0.0 0.0 0.0 0.0 0.1 0.0 0.0 0.0 0.1 0.1 0.1
0.0
 215. * 0.0 0.0 0.0 0.0 0.0 0.1 0.0 0.0 0.0 0.1 0.3 0.5
0.0
 220. * 0.0 0.0 0.0 0.0 0.0 0.1 0.0 0.0 0.0 0.1 0.5 0.5
0.0
 225. * 0.0 0.0 0.0 0.0 0.0 0.1 0.0 0.0 0.0 0.1 0.4 0.4
0.0
 230. * 0.0 0.0 0.0 0.0 0.0 0.1 0.0 0.0 0.0 0.1 0.3 0.3
0.0
 235. * 0.0 0.0 0.0 0.0 0.0 0.1 0.0 0.0 0.0 0.1 0.3 0.3
0.0
 240. * 0.0 0.0 0.0 0.0 0.0 0.1 0.0 0.0 0.0 0.1 0.3 0.3
0.0
 245. * 0.0 0.0 0.0 0.0 0.0 0.1 0.0 0.0 0.0 0.1 0.3 0.3
0.0
 250. * 0.0 0.0 0.0 0.0 0.0 0.1 0.0 0.0 0.0 0.1 0.1 0.1
0.0
 255. * 0.0 0.0 0.0 0.0 0.0 0.1 0.0 0.0 0.0 0.1 0.1 0.2
0.0
 260. * 0.0 0.0 0.0 0.0 0.0 0.1 0.0 0.0 0.0 0.1 0.1 0.2
0.0
 265. * 0.0 0.0 0.0 0.0 0.0 0.1 0.0 0.0 0.0 0.1 0.1 0.2
0.0
 270. * 0.0 0.0 0.0 0.0 0.0 0.1 0.0 0.0 0.0 0.1 0.0 0.0
0.0
 275. * 0.0 0.0 0.0 0.0 0.1 0.1 0.0 0.0 0.0 0.0 0.0 0.0
0.0
 280. * 0.0 0.0 0.0 0.0 0.1 0.1 0.0 0.0 0.0 0.0 0.0 0.1
0.0
 285. * 0.0 0.0 0.0 0.0 0.1 0.1 0.0 0.0 0.0 0.1 0.0 0.1
0.0

290.	*	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.1
0.0													
295.	*	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.1
0.0													
300.	*	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.1	0.0	0.1
0.0													
305.	*	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.1	0.0	0.0
0.0													
310.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.1	0.1
0.0													
315.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.0	0.2	0.2
0.0													
320.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.2	0.2
0.0													
325.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.2	0.1
0.0													
330.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.4	0.3
0.0													
335.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.3	0.4	0.2
0.0													
340.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.3	0.4	0.1
0.0													
345.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.3	0.4	0.1
0.0													
350.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.3	0.2	0.1
0.0													
355.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.3	0.1	0.4
0.0													

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-

MAX	*	0.2	0.4	0.5	0.4	0.4	0.3	0.2	0.4	0.5	0.4	0.5	0.5
0.0													
DEGR.	*	65	30	35	30	40	30	105	25	25	0	220	215
0													

THE HIGHEST CONCENTRATION OF 0.50 PPM OCCURRED AT RECEPTOR REC9 .

♀ CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated 95221 PAGE 1

JOB: BUild Fayetteville 2027 RUN: BUild Fayetteville 2027

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The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 108. CM
U = 1.0 M/S CLAS = 5 (E) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 PPM

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT)				*	LENGTH	BRG	TYPE	VPH	EF	H	W	V/C	QUEUE
	*	X1	Y1	X2	Y2	*	(FT)	(DEG)			(G/MI)	(FT)	(FT)		(VEH)
1. 1	*	1544.0	1804.0	1501.0	1714.0	*	100.	206.	AG	147.	3.5	0.0	32.0		
2. 2	*	1501.0	1714.0	1346.0	1244.0	*	495.	198.	AG	147.	3.5	0.0	32.0		
3. 3	*	1341.0	1246.0	1198.0	1099.0	*	205.	224.	AG	147.	3.9	0.0	32.0		
4. 4	*	1198.0	1099.0	1009.0	1119.0	*	190.	276.	AG	147.	3.9	0.0	32.0		
5. 5	*	1009.0	1119.0	902.0	1277.0	*	191.	326.	AG	147.	3.9	0.0	32.0		
6. 6	*	902.0	1277.0	954.0	1460.0	*	190.	16.	AG	147.	3.9	0.0	32.0		
7. 7	*	954.0	1460.0	1127.0	1539.0	*	190.	65.	AG	147.	3.9	0.0	32.0		
8. 8	*	1127.0	1539.0	1315.0	1481.0	*	197.	107.	AG	147.	3.5	0.0	32.0		
9. 9	*	1315.0	1481.0	1393.0	1442.0	*	87.	117.	AG	147.	3.5	0.0	32.0		
10. 10	*	1393.0	1442.0	1459.0	1411.0	*	73.	115.	AG	147.	3.5	0.0	32.0		
11. 11	*	1459.0	1411.0	2298.0	1061.0	*	909.	113.	AG	147.	3.5	0.0	32.0		
12. 12	*	2297.0	1075.0	1464.0	1422.0	*	902.	293.	AG	999.	3.5	0.0	32.0		
13. 13	*	1464.0	1422.0	764.0	1780.0	*	786.	297.	AG	999.	3.5	0.0	32.0		
14. 14	*	776.0	1788.0	1469.0	1433.0	*	779.	117.	AG	999.	3.5	0.0	32.0		
15. 15	*	1469.0	1433.0	2295.0	1088.0	*	895.	113.	AG	999.	3.5	0.0	32.0		
16. 16	*	2293.0	1102.0	1474.0	1444.0	*	888.	293.	AG	998.	3.5	0.0	32.0		
17. 17	*	1474.0	1444.0	788.0	1795.0	*	771.	297.	AG	998.	3.5	0.0	32.0		
18. 18	*	873.0	1841.0	1500.0	1522.0	*	703.	117.	AG	488.	3.5	0.0	32.0		
19. 19	*	1500.0	1522.0	2272.0	1197.0	*	838.								

```
113. AG    488.   3.5   0.0 32.0
      20. 20                  *   2268.0    1211.0    1503.0    1534.0 *     830.
293. AG    489.   3.5   0.0 32.0
      21. 21                  *   1503.0    1534.0     887.0    1848.0 *     691.
297. AG    489.   3.5   0.0 32.0
      22. 22                  *    900.0    1854.0    1508.0    1545.0 *     682.
117. AG    489.   3.5   0.0 32.0
      23. 23                  *   1508.0    1545.0    2264.0    1226.0 *     821.
113. AG    489.   3.5   0.0 32.0
      24. 24                  *    914.0    1860.0    1512.0    1556.0 *     671.
117. AG    257.   3.5   0.0 32.0
      25. 25                  *   1512.0    1556.0    1758.0    1445.0 *     270.
114. AG    257.   3.5   0.0 32.0
      26. 26                  *   1758.0    1445.0    1895.0    1436.0 *     137.
94. AG     257.   3.9   0.0 32.0
      27. 27                  *   1895.0    1436.0    2000.0    1490.0 *     118.
63. AG     257.   3.9   0.0 32.0
      28. 28                  *   2000.0    1490.0    2074.0    1672.0 *     196.
22. AG     257.   3.9   0.0 32.0
      29. 29                  *   2074.0    1672.0    1978.0    1844.0 *     197.
331. AG    257.   3.9   0.0 32.0
      30. 30                  *   1978.0    1844.0    1786.0    1878.0 *     195.
280. AG    257.   3.9   0.0 32.0
      31. 31                  *   1786.0    1878.0    1632.0    1748.0 *     202.
230. AG    257.   3.9   0.0 32.0
      32. 32                  *   1632.0    1748.0    1470.0    1256.0 *     518.
198. AG    257.   3.5   0.0 32.0
      33. 33                  *   1470.0    1256.0    1428.0    1166.0 *      99.
205. AG    257.   3.5   0.0 32.0
      34. 34                  *   1035.0      22.0    1207.0     498.0 *     506.
20. AG    1074.   3.5   0.0 32.0
      35. 35                  *   1207.0     498.0    1360.0     962.0 *     489.
18. AG     582.   3.5   0.0 32.0
      36. 36                  *   1360.0     962.0    1428.0    1166.0 *     215.
18. AG     690.   3.5   0.0 32.0
      37. 37                  *   1428.0    1166.0    1662.0    1874.0 *     746.
18. AG     433.   3.5   0.0 32.0
      38. 38                  *   1650.0    1878.0    1349.0     965.0 *     961.
198. AG    690.   3.5   0.0 32.0
      39. 39                  *   1349.0     965.0    1024.0     -19.0 *    1036.
198. AG   1074.   3.5   0.0 32.0
      40. 40                  *   1012.0     -15.0    1338.0     969.0 *    1037.
18. AG    1074.   3.5   0.0 32.0
      41. 41                  *   1338.0     969.0    1639.0    1882.0 *     961.
18. AG     690.   3.5   0.0 32.0
      42. 42                  *   1599.0    1896.0    1298.0     982.0 *     962.
198. AG    934.   3.5   0.0 32.0
      43. 43                  *   1298.0     982.0    1174.0     606.0 *     396.
198. AG   1326.   3.5   0.0 32.0
      44. 44                  *    961.0       1.0    1286.0     986.0 *    1037.
18. AG    1326.   3.5   0.0 32.0
♀
```


JOB: BUild Fayetteville 2027 RUN: BUild Fayetteville 2027

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LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT)				*	LENGTH
BRG TYPE VPH EF H W V/C QUEUE							

```
                                      *   X1        Y1        X2        Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*----------------------------------------*------------------
----------------------------------------
      45. 45                          *   1286.0     986.0    1588.0    1899.0 *     962.
18. AG    934.   3.5   0.0 32.0
      46. 46                          *   1576.0    1902.0    1275.0     990.0 *     960.
198. AG    933.   3.5   0.0 32.0
      47. 47                          *   1275.0     990.0     950.0       5.0 *    1037.
198. AG   1326.   3.5   0.0 32.0
      48. 48                          *    457.0    1469.0     573.0    1292.0 *     212.
147. AG    301.   3.5   0.0 32.0
      49. 49                          *    573.0    1292.0     656.0    1105.0 *     205.
156. AG    301.   3.5   0.0 32.0
      50. 50                          *    656.0    1105.0     708.0     910.0 *     202.
165. AG    301.   3.5   0.0 32.0
      51. 51                          *    708.0     910.0     730.0     710.0 *     201.
174. AG    301.   3.5   0.0 32.0
      52. 52                          *    730.0     710.0     722.0     502.0 *     208.
182. AG    301.   3.5   0.0 32.0
      53. 53                          *    722.0     502.0     716.0     297.0 *     205.
182. AG    301.   3.5   0.0 32.0
      54. 54                          *    716.0     297.0     753.0     198.0 *     106.
160. AG    301.   3.5   0.0 32.0
      55. 55                          *    753.0     198.0     828.0     122.0 *     107.
135. AG    301.   3.5   0.0 32.0
      56. 56                          *    828.0     122.0     959.0      32.0 *     159.
124. AG    301.   3.5   0.0 32.0
      57. 57                          *    963.0      44.0     835.0     132.0 *     155.
305. AG    207.   3.5   0.0 32.0
      58. 58                          *    835.0     132.0     750.0     227.0 *     127.
318. AG    207.   3.5   0.0 32.0
      59. 59                          *    750.0     227.0     725.0     351.0 *     126.
349. AG    207.   3.5   0.0 32.0
      60. 60                          *    725.0     351.0     735.0     503.0 *     152.
 4. AG    207.   3.5   0.0 32.0
      61. 61                          *    735.0     503.0     742.0     717.0 *     214.
 2. AG    207.   3.5   0.0 32.0
      62. 62                          *    742.0     717.0     719.0     916.0 *     200.
353. AG    207.   3.5   0.0 32.0
      63. 63                          *    719.0     916.0     667.0    1110.0 *     201.
345. AG    207.   3.5   0.0 32.0
      64. 64                          *    667.0    1110.0     586.0    1293.0 *     200.
336. AG    207.   3.5   0.0 32.0
      65. 65                          *    586.0    1293.0     464.0    1480.0 *     223.
327. AG    207.   3.5   0.0 32.0
      66. 66                          *    563.0    1609.0     641.0    1432.0 *     193.
156. AG    839.   3.5   0.0 32.0
      67. 67                          *    641.0    1432.0     730.0    1252.0 *     201.
154. AG    839.   3.5   0.0 32.0
      68. 68                          *    730.0    1252.0     803.0    1163.0 *     115.
141. AG    839.   3.5   0.0 32.0
      69. 69                          *    803.0    1163.0     993.0    1037.0 *     228.
124. AG    304.   3.5   0.0 32.0
      70. 70                          *    993.0    1037.0    1261.0     948.0 *     282.
108. AG    304.   3.5   0.0 32.0
      71. 71                          *   1257.0     937.0    1015.0    1017.0 *     255.
288. AG    304.   3.5   0.0 32.0
      72. 72                          *   1015.0    1017.0     911.0    1063.0 *     114.
294. AG    304.   3.5   0.0 32.0
      73. 73                          *    911.0    1063.0     803.0    1163.0 *     147.
313. AG    304.   3.5   0.0 32.0
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      74. 74                    *    803.0    1163.0     923.0    1084.0 *     144.
123. AG    231.   3.5   0.0 32.0
      75. 75                    *    923.0    1084.0    1096.0    1015.0 *     186.
112. AG    231.   3.5   0.0 32.0
      76. 76                    *   1096.0    1015.0    1271.0     958.0 *     184.
108. AG    231.   3.5   0.0 32.0
      77. 77                    *   2303.0     875.0    2103.0     866.0 *     200.
267. AG    492.   3.5   0.0 32.0
      78. 78                    *   2103.0     866.0    1894.0     859.0 *     209.
268. AG    492.   3.5   0.0 32.0
      79. 79                    *   1894.0     859.0    1686.0     865.0 *     208.
272. AG    492.   3.5   0.0 32.0
      80. 80                    *   1686.0     865.0    1470.0     902.0 *     219.
280. AG    492.   3.5   0.0 32.0
      81. 81                    *   1470.0     902.0    1390.0     893.0 *      81.
264. AG    492.   3.9   0.0 32.0
      82. 82                    *   1390.0     893.0    1332.0     838.0 *      80.
227. AG    492.   3.9   0.0 32.0
      83. 83                    *   1332.0     838.0    1250.0     589.0 *     262.
198. AG    492.   3.5   0.0 32.0
      84. 84                    *   1250.0     589.0    1207.0     498.0 *     101.
205. AG    492.   3.5   0.0 32.0
      85. 85                    *   1174.0     606.0    1154.0     508.0 *     100.
192. AG    370.   3.5   0.0 32.0
      86. 86                    *   1154.0     508.0    1053.0     203.0 *     321.
198. AG    370.   3.5   0.0 32.0
      87. 87                    *   1053.0     203.0    1019.0      68.0 *     139.
194. AG    370.   3.5   0.0 32.0
      88. 88                    *   1174.0     606.0     972.0      -2.0 *     641.
198. AG    956.   3.5   0.0 32.0
      89. Q1-NB401 Thru         *   1671.2    1979.1    1635.9    1872.3 *     112.
198. AG     13. 100.0   0.0 12.0 0.60   5.7
      90. Q2-NB401 Thru         *   1682.6    1975.4    1647.4    1868.6 *     112.
198. AG     13. 100.0   0.0 12.0 0.60   5.7
      91. Q3-NB401 Thru         *   1694.0    1971.6    1658.7    1864.8 *     112.
198. AG     13. 100.0   0.0 12.0 0.60   5.7
      92. Q4-SB401 Thru         *   1276.7     994.1    1906.0    2901.4 *    2008.
18. AG     15. 100.0   0.0 12.0 1.17 102.0
      93. Q5-SB401 Thru         *   1288.1     990.4    1917.4    2897.7 *    2008.
18. AG     15. 100.0   0.0 12.0 1.17 102.0
      94. Q6-SB401 Thru         *   1299.5     986.6    1928.9    2893.9 *    2008.
18. AG     15. 100.0   0.0 12.0 1.17 102.0
      95. Q7-NB401 RT           *   1346.8     881.2    1315.6     786.7 *     100.
198. AG     15. 100.0   0.0 12.0 0.51   5.1
♀
```


JOB: BUild Fayetteville 2027 RUN: BUild Fayetteville 2027

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LINK VARIABLES

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        LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
                               *   X1        Y1        X2        Y2     *     (FT)
(DEG)           (G/MI)  (FT) (FT)       (VEH)

------------------------*-----------------------------------------*-----------------
---------------------------------------
      96. Q8-NB401 Thru         *   1335.4     884.9    1296.5     767.1 *     124.
198. AG     15. 100.0   0.0 12.0 0.64   6.3
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      97. Q9-NB401 Thru       *   1324.0     888.7    1285.1     770.9 *     124.
198. AG     15. 100.0   0.0 12.0 0.64   6.3
      98. Q10-NB401 Thru      *   1312.6     892.5    1273.7     774.7 *     124.
198. AG     15. 100.0   0.0 12.0 0.64   6.3
      99. Q11-EB540 to NB540  *   1250.2     965.0    1077.6    1021.9 *     182.
288. AG     34. 100.0   0.0 12.0 1.00   9.2
     100. Q12-EB540 to SB540  *   1246.4     953.6     343.7    1251.6 *     951.
288. AG     34. 100.0   0.0 12.0 1.31  48.3
     101. Q13-EB540 to SB540  *   1242.7     942.2     339.9    1239.7 *     951.
288. AG     34. 100.0   0.0 12.0 1.31  48.3
     102. Q14-EB Donny        *    925.5      57.4    -814.7    1257.3 *    2114.
305. AG     37. 100.0   0.0 12.0 2.59 107.4
     103. Q15-WB Donny        *   1060.6       4.2    3992.4    -962.7 *    3087.
108. AG     37. 100.0   0.0 12.0 3.37 156.8
     104. Q16-SB401atDonny LT *   1019.9      70.4    1801.4    2666.2 *    2711.
17. AG     37. 100.0   0.0 12.0 2.85 137.7
     105. Q17-SB401atDonny    *    993.0      58.0    1702.9    2208.3 *    2264.
18. AG     17. 100.0   0.0 12.0 1.21 115.0
     106. Q18-SB401atDonny    *    981.6      61.7    1691.5    2212.0 *    2264.
18. AG     17. 100.0   0.0 12.0 1.21 115.0
     107. Q19-SB401atDonny    *    970.2      65.5    1680.1    2215.8 *    2264.
18. AG     17. 100.0   0.0 12.0 1.21 115.0
     108. Q20-SB401atDonny RT *    958.8      69.3     968.2      97.7 *      30.
18. AG     17. 100.0   0.0 12.0 0.15   1.5
♀
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JOB: BUild Fayetteville 2027 RUN: BUild Fayetteville 2027

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ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
89. Q1-NB401 Thru	*	110	34	5.0	605	1600	16.11	1	3
90. Q2-NB401 Thru	*	110	34	5.0	605	1600	16.11	1	3
91. Q3-NB401 Thru	*	110	34	5.0	605	1600	16.11	1	3
92. Q4-SB401 Thru	*	110	37	5.0	1123	1600	16.11	1	3
93. Q5-SB401 Thru	*	110	37	5.0	1123	1600	16.11	1	3
94. Q6-SB401 Thru	*	110	37	5.0	1123	1600	16.11	1	3
95. Q7-NB401 RT	*	110	37	5.0	492	1600	16.11	1	3
96. Q8-NB401 Thru	*	110	37	5.0	613	1600	16.11	1	3
97. Q9-NB401 Thru	*	110	37	5.0	613	1600	16.11	1	3
98. Q10-NB401 Thru	*	110	37	5.0	613	1600	16.11	1	3

99. Q11-EB540 to NB540	*	110	87	5.0	231	1600	16.11	1	3
100. Q12-EB540 to SB540	*	110	87	5.0	304	1600	16.11	1	3
101. Q13-EB540 to SB540	*	110	87	5.0	304	1600	16.11	1	3
102. Q14-EB Donny	*	110	95	5.0	301	1600	16.11	1	3
103. Q15-WB Donny	*	110	95	5.0	391	1600	16.11	1	3
104. Q16-SB401atDonny LT	*	110	94	5.0	370	1600	16.11	1	3
105. Q17-SB401atDonny	*	110	43	5.0	1059	1600	16.11	1	3
106. Q18-SB401atDonny	*	110	43	5.0	1059	1600	16.11	1	3
107. Q19-SB401atDonny	*	110	43	5.0	1059	1600	16.11	1	3
108. Q20-SB401atDonny RT	*	110	43	5.0	127	1600	16.11	1	3

RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (FT) X	Y	Z
1. US401-1	*	990.0	939.2	6.0
2. US401-2	*	1084.6	844.3	6.0
3. US401-3	*	1136.4	792.3	6.0
4. US401-4	*	1024.3	452.7	6.0
5. US401-5	*	964.0	270.1	6.0
6. US401-6	*	864.8	177.7	6.0
7. US401-7	*	737.4	130.6	6.0
8. US401-8	*	843.1	48.5	6.0
9. US401-9	*	869.5	-64.1	6.0
10. US401-10	*	1141.9	7.6	6.0
11. US401-11	*	1310.2	569.3	6.0
12. US401-12	*	1358.4	715.4	6.0
13. US401-13	*	1544.3	790.2	6.0

♀

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-355.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13
0.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.6	0.3	0.3	0.0

5.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.6	0.2	0.2
0.0													
10.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.3	0.1	0.1
0.0													
15.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0
0.0													
20.	*	0.0	0.0	0.2	0.2	0.3	0.0	0.1	0.1	0.3	0.0	0.0	0.0
0.0													
25.	*	0.0	0.0	0.4	0.3	0.3	0.0	0.1	0.4	0.5	0.0	0.0	0.0
0.0													
30.	*	0.0	0.2	0.4	0.4	0.3	0.3	0.1	0.4	0.7	0.0	0.0	0.0
0.0													
35.	*	0.0	0.4	0.4	0.4	0.5	0.2	0.1	0.4	0.7	0.0	0.0	0.0
0.0													
40.	*	0.0	0.2	0.3	0.6	0.6	0.2	0.1	0.5	0.6	0.0	0.0	0.0
0.0													
45.	*	0.0	0.0	0.4	0.5	0.6	0.2	0.2	0.5	0.6	0.0	0.0	0.0
0.0													
50.	*	0.0	0.0	0.4	0.5	0.6	0.2	0.2	0.4	0.6	0.0	0.0	0.0
0.0													
55.	*	0.0	0.0	0.4	0.5	0.5	0.2	0.1	0.3	0.3	0.0	0.0	0.0
0.0													
60.	*	0.0	0.1	0.3	0.5	0.5	0.2	0.1	0.3	0.0	0.0	0.0	0.0
0.0													
65.	*	0.0	0.2	0.3	0.4	0.4	0.2	0.1	0.3	0.0	0.0	0.0	0.0
0.0													
70.	*	0.1	0.2	0.3	0.3	0.3	0.2	0.1	0.3	0.0	0.0	0.0	0.0
0.0													
75.	*	0.1	0.3	0.3	0.3	0.3	0.2	0.1	0.2	0.0	0.0	0.0	0.0
0.0													
80.	*	0.0	0.3	0.3	0.3	0.3	0.2	0.1	0.2	0.0	0.0	0.0	0.0
0.0													
85.	*	0.0	0.3	0.3	0.2	0.3	0.2	0.1	0.2	0.1	0.0	0.0	0.0
0.0													
90.	*	0.0	0.2	0.3	0.2	0.2	0.2	0.1	0.2	0.1	0.0	0.0	0.0
0.0													
95.	*	0.0	0.2	0.3	0.2	0.2	0.2	0.1	0.2	0.1	0.0	0.0	0.0
0.0													
100.	*	0.0	0.3	0.3	0.2	0.3	0.2	0.1	0.3	0.1	0.1	0.0	0.0
0.0													
105.	*	0.0	0.3	0.3	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.0	0.0
0.0													
110.	*	0.0	0.3	0.3	0.2	0.2	0.3	0.2	0.1	0.0	0.1	0.0	0.0
0.0													
115.	*	0.0	0.3	0.3	0.2	0.3	0.3	0.1	0.1	0.0	0.2	0.0	0.0
0.0													
120.	*	0.0	0.2	0.3	0.2	0.3	0.3	0.0	0.0	0.0	0.2	0.0	0.0
0.0													
125.	*	0.0	0.2	0.3	0.2	0.2	0.3	0.0	0.0	0.0	0.1	0.0	0.0
0.0													
130.	*	0.0	0.3	0.3	0.2	0.3	0.2	0.0	0.0	0.0	0.1	0.0	0.0
0.0													
135.	*	0.0	0.3	0.3	0.3	0.3	0.2	0.0	0.0	0.0	0.1	0.0	0.0
0.0													
140.	*	0.0	0.3	0.3	0.3	0.3	0.2	0.0	0.0	0.0	0.1	0.0	0.0
0.0													
145.	*	0.0	0.3	0.3	0.3	0.3	0.1	0.0	0.0	0.0	0.1	0.0	0.0
0.0													
150.	*	0.0	0.2	0.4	0.4	0.3	0.0	0.0	0.0	0.0	0.1	0.0	0.0
0.0													
155.	*	0.0	0.2	0.4	0.4	0.3	0.0	0.0	0.0	0.0	0.1	0.0	0.0
0.0													
160.	*	0.0	0.2	0.6	0.5	0.3	0.0	0.0	0.0	0.0	0.1	0.0	0.0

```
0.0
 165.  *   0.0   0.2   0.6   0.5   0.3   0.1   0.0   0.0   0.0   0.1   0.0   0.0
0.0
 170.  *   0.0   0.2   0.5   0.4   0.3   0.1   0.0   0.0   0.0   0.1   0.0   0.0
0.0
 175.  *   0.0   0.2   0.6   0.3   0.2   0.1   0.0   0.0   0.0   0.1   0.0   0.0
0.0
 180.  *   0.0   0.2   0.6   0.3   0.2   0.1   0.0   0.0   0.0   0.1   0.0   0.0
0.0
 185.  *   0.0   0.2   0.5   0.2   0.1   0.1   0.0   0.0   0.0   0.1   0.0   0.0
0.0
 190.  *   0.0   0.0   0.3   0.2   0.0   0.1   0.0   0.0   0.0   0.1   0.0   0.0
0.0
 195.  *   0.0   0.0   0.2   0.0   0.0   0.1   0.0   0.0   0.0   0.1   0.0   0.0
0.0
 200.  *   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.0   0.0   0.1   0.0   0.0
0.0
 205.  *   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.0   0.0   0.1   0.2   0.3
0.0
♀
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 WIND  * CONCENTRATION
 ANGLE *      (PPM)
 (DEGR)* REC1  REC2  REC3  REC4  REC5  REC6  REC7  REC8  REC9  REC10 REC11 REC12
REC13

------*-------------------------------------------------------------------------
-
 210.  *   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.0   0.0   0.1   0.3   0.3
0.0
 215.  *   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.0   0.0   0.1   0.4   0.5
0.0
 220.  *   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.0   0.0   0.1   0.6   0.5
0.0
 225.  *   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.0   0.0   0.1   0.6   0.4
0.0
 230.  *   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.0   0.0   0.1   0.6   0.4
0.0
 235.  *   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.0   0.0   0.1   0.4   0.4
0.0
 240.  *   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.0   0.0   0.1   0.4   0.4
0.0
 245.  *   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.0   0.0   0.1   0.4   0.4
0.0
 250.  *   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.0   0.0   0.1   0.4   0.5
0.0
 255.  *   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.0   0.0   0.1   0.4   0.5
0.0
 260.  *   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.0   0.0   0.1   0.4   0.5
0.0
 265.  *   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.0   0.0   0.1   0.4   0.5
0.0
 270.  *   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.0   0.0   0.1   0.3   0.4
0.0
 275.  *   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.0   0.0   0.1   0.3   0.4
0.0
 280.  *   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.0   0.0   0.1   0.3   0.4
0.0
 285.  *   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.0   0.0   0.1   0.3   0.4
0.0
```

290.	*	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.2	0.3	0.4
0.0													
295.	*	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.2	0.3	0.4
0.0													
300.	*	0.2	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.3	0.3	0.4
0.0													
305.	*	0.2	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.3	0.4	0.4
0.0													
310.	*	0.2	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.4	0.5	0.5
0.0													
315.	*	0.2	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.4	0.5	0.5
0.0													
320.	*	0.2	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.4	0.5	0.5
0.0													
325.	*	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.5	0.5	0.5
0.0													
330.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.5	0.5	0.5
0.0													
335.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.5	0.5	0.4
0.0													
340.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.5	0.5	0.3
0.0													
345.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.5	0.5	0.2
0.0													
350.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.5	0.4	0.2
0.0													
355.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.6	0.3	0.2
0.0													

MAX	*	0.2	0.4	0.6	0.6	0.6	0.3	0.2	0.5	0.7	0.6	0.6	0.5
0.0													
DEGR.	*	300	35	160	40	40	30	45	40	30	0	220	215
0													

THE HIGHEST CONCENTRATION OF 0.70 PPM OCCURRED AT RECEPTOR REC9 .

♀ CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated 95221 PAGE 1

JOB: Build Fayetteville 2035 RUN: Build Fayetteville 2035

DATE : 7/15/14
TIME : 13:47: 3

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 108. CM
U = 1.0 M/S CLAS = 5 (E) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 PPM

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT)				*	LENGTH	BRG	TYPE	VPH	EF	H	W	V/C	QUEUE
	*	X1	Y1	X2	Y2	*	(FT)	(DEG)			(G/MI)	(FT)	(FT)		(VEH)
1. 1	*	1544.0	1804.0	1501.0	1714.0	*	100.	206.	AG	175.	3.3	0.0	32.0		
2. 2	*	1501.0	1714.0	1346.0	1244.0	*	495.	198.	AG	175.	3.3	0.0	32.0		
3. 3	*	1341.0	1246.0	1198.0	1099.0	*	205.	224.	AG	175.	3.7	0.0	32.0		
4. 4	*	1198.0	1099.0	1009.0	1119.0	*	190.	276.	AG	175.	3.7	0.0	32.0		
5. 5	*	1009.0	1119.0	902.0	1277.0	*	191.	326.	AG	175.	3.7	0.0	32.0		
6. 6	*	902.0	1277.0	954.0	1460.0	*	190.	16.	AG	175.	3.7	0.0	32.0		
7. 7	*	954.0	1460.0	1127.0	1539.0	*	190.	65.	AG	175.	3.7	0.0	32.0		
8. 8	*	1127.0	1539.0	1315.0	1481.0	*	197.	107.	AG	175.	3.7	0.0	32.0		
9. 9	*	1315.0	1481.0	1393.0	1442.0	*	87.	117.	AG	175.	3.7	0.0	32.0		
10. 10	*	1393.0	1442.0	1459.0	1411.0	*	73.	115.	AG	175.	3.3	0.0	32.0		
11. 11	*	1459.0	1411.0	2298.0	1061.0	*	909.	113.	AG	175.	3.3	0.0	32.0		
12. 12	*	2297.0	1075.0	1464.0	1422.0	*	902.	293.	AG	1232.	3.3	0.0	32.0		
13. 13	*	1464.0	1422.0	764.0	1780.0	*	786.	297.	AG	1232.	3.3	0.0	32.0		
14. 14	*	776.0	1788.0	1469.0	1433.0	*	779.	117.	AG	1232.	3.3	0.0	32.0		
15. 15	*	1469.0	1433.0	2295.0	1088.0	*	895.	113.	AG	1232.	3.3	0.0	32.0		
16. 16	*	2293.0	1102.0	1474.0	1444.0	*	888.	293.	AG	1232.	3.3	0.0	32.0		
17. 17	*	1474.0	1444.0	788.0	1795.0	*	771.	297.	AG	1232.	3.3	0.0	32.0		
18. 18	*	873.0	1841.0	1500.0	1522.0	*	703.	117.	AG	604.	3.3	0.0	32.0		
19. 19	*	1500.0	1522.0	2272.0	1197.0	*	838.								

```
113. AG    604.   3.3   0.0 32.0
      20. 20                    *   2268.0    1211.0    1503.0    1534.0 *     830.
293. AG    604.   3.3   0.0 32.0
      21. 21                    *   1503.0    1534.0     887.0    1848.0 *     691.
297. AG    604.   3.3   0.0 32.0
      22. 22                    *    900.0    1854.0    1508.0    1545.0 *     682.
117. AG    604.   3.3   0.0 32.0
      23. 23                    *   1508.0    1545.0    2264.0    1226.0 *     821.
113. AG    604.   3.3   0.0 32.0
      24. 24                    *    914.0    1860.0    1512.0    1556.0 *     671.
117. AG    311.   3.3   0.0 32.0
      25. 25                    *   1512.0    1556.0    1758.0    1445.0 *     270.
114. AG    311.   3.3   0.0 32.0
      26. 26                    *   1758.0    1445.0    1895.0    1436.0 *     137.
94. AG     311.   3.7   0.0 32.0
      27. 27                    *   1895.0    1436.0    2000.0    1490.0 *     118.
63. AG     311.   3.7   0.0 32.0
      28. 28                    *   2000.0    1490.0    2074.0    1672.0 *     196.
22. AG     311.   3.7   0.0 32.0
      29. 29                    *   2074.0    1672.0    1978.0    1844.0 *     197.
331. AG    311.   3.7   0.0 32.0
      30. 30                    *   1978.0    1844.0    1786.0    1878.0 *     195.
280. AG    311.   3.7   0.0 32.0
      31. 31                    *   1786.0    1878.0    1632.0    1748.0 *     202.
230. AG    311.   3.7   0.0 32.0
      32. 32                    *   1632.0    1748.0    1470.0    1256.0 *     518.
198. AG    311.   3.3   0.0 32.0
      33. 33                    *   1470.0    1256.0    1428.0    1166.0 *      99.
205. AG    311.   3.3   0.0 32.0
      34. 34                    *   1035.0      22.0    1207.0     498.0 *     506.
20. AG     798.   3.3   0.0 32.0
      35. 35                    *   1207.0     498.0    1360.0     962.0 *     489.
18. AG     186.   3.3   0.0 32.0
      36. 36                    *   1360.0     962.0    1428.0    1166.0 *     215.
18. AG     674.   3.3   0.0 32.0
      37. 37                    *   1428.0    1166.0    1662.0    1874.0 *     746.
18. AG     363.   3.3   0.0 32.0
      38. 38                    *   1650.0    1878.0    1349.0     965.0 *     961.
198. AG    674.   3.3   0.0 32.0
      39. 39                    *   1349.0     965.0    1024.0     -19.0 *    1036.
198. AG    798.   3.3   0.0 32.0
      40. 40                    *   1012.0     -15.0    1338.0     969.0 *    1037.
18. AG     798.   3.3   0.0 32.0
      41. 41                    *   1338.0     969.0    1639.0    1882.0 *     961.
18. AG     674.   3.3   0.0 32.0
      42. 42                    *   1599.0    1896.0    1298.0     982.0 *     962.
198. AG   1276.   3.3   0.0 32.0
      43. 43                    *   1298.0     982.0    1174.0     606.0 *     396.
198. AG   1428.   3.3   0.0 32.0
      44. 44                    *    961.0       1.0    1286.0     986.0 *    1037.
18. AG    1428.   3.3   0.0 32.0
♀
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JOB: Build Fayetteville 2035 RUN: Build Fayetteville 2035

DATE : 7/15/14
TIME : 13:47: 3

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT)	*	LENGTH

BRG TYPE VPH EF H W V/C QUEUE

```
                                           *   X1         Y1         X2         Y2      *      (FT)
(DEG)              (G/MI)  (FT) (FT)       (VEH)

------------------------*-----------------------------------------*------------------
----------------------------------------
      45. 45                               *  1286.0      986.0     1588.0     1899.0 *      962.
18. AG   1276.   3.3   0.0 32.0
      46. 46                               *  1576.0     1902.0     1275.0      990.0 *      960.
198. AG   1276.   3.3   0.0 32.0
      47. 47                               *  1275.0      990.0      950.0        5.0 *     1037.
198. AG   1428.   3.3   0.0 32.0
      48. 48                               *   457.0     1469.0      573.0     1292.0 *      212.
147. AG    342.   3.3   0.0 32.0
      49. 49                               *   573.0     1292.0      656.0     1105.0 *      205.
156. AG    342.   3.3   0.0 32.0
      50. 50                               *   656.0     1105.0      708.0      910.0 *      202.
165. AG    342.   3.3   0.0 32.0
      51. 51                               *   708.0      910.0      730.0      710.0 *      201.
174. AG    342.   3.3   0.0 32.0
      52. 52                               *   730.0      710.0      722.0      502.0 *      208.
182. AG    342.   3.3   0.0 32.0
      53. 53                               *   722.0      502.0      716.0      297.0 *      205.
182. AG    342.   3.3   0.0 32.0
      54. 54                               *   716.0      297.0      753.0      198.0 *      106.
160. AG    342.   3.3   0.0 32.0
      55. 55                               *   753.0      198.0      828.0      122.0 *      107.
135. AG    342.   3.3   0.0 32.0
      56. 56                               *   828.0      122.0      959.0       32.0 *      159.
124. AG    342.   3.3   0.0 32.0
      57. 57                               *   963.0       44.0      835.0      132.0 *      155.
305. AG    171.   3.3   0.0 32.0
      58. 58                               *   835.0      132.0      750.0      227.0 *      127.
318. AG    171.   3.3   0.0 32.0
      59. 59                               *   750.0      227.0      725.0      351.0 *      126.
349. AG    171.   3.3   0.0 32.0
      60. 60                               *   725.0      351.0      735.0      503.0 *      152.
 4. AG    171.   3.3   0.0 32.0
      61. 61                               *   735.0      503.0      742.0      717.0 *      214.
 2. AG    171.   3.3   0.0 32.0
      62. 62                               *   742.0      717.0      719.0      916.0 *      200.
353. AG    171.   3.3   0.0 32.0
      63. 63                               *   719.0      916.0      667.0     1110.0 *      201.
345. AG    171.   3.3   0.0 32.0
      64. 64                               *   667.0     1110.0      586.0     1293.0 *      200.
336. AG    171.   3.3   0.0 32.0
      65. 65                               *   586.0     1293.0      464.0     1480.0 *      223.
327. AG    171.   3.3   0.0 32.0
      66. 66                               *   563.0     1609.0      641.0     1432.0 *      193.
156. AG    873.   3.3   0.0 32.0
      67. 67                               *   641.0     1432.0      730.0     1252.0 *      201.
154. AG    873.   3.3   0.0 32.0
      68. 68                               *   730.0     1252.0      803.0     1163.0 *      115.
141. AG    873.   3.3   0.0 32.0
      69. 69                               *   803.0     1163.0      993.0     1037.0 *      228.
124. AG    316.   3.3   0.0 32.0
      70. 70                               *   993.0     1037.0     1261.0      948.0 *      282.
108. AG    316.   3.3   0.0 32.0
      71. 71                               *  1257.0      937.0     1015.0     1017.0 *      255.
288. AG    316.   3.3   0.0 32.0
      72. 72                               *  1015.0     1017.0      911.0     1063.0 *      114.
294. AG    316.   3.3   0.0 32.0
      73. 73                               *   911.0     1063.0      803.0     1163.0 *      147.
313. AG    316.   3.3   0.0 32.0
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      74. 74                    *    803.0    1163.0     923.0    1084.0 *     144.
123. AG    241.   3.3   0.0 32.0
      75. 75                    *    923.0    1084.0    1096.0    1015.0 *     186.
112. AG    241.   3.3   0.0 32.0
      76. 76                    *   1096.0    1015.0    1271.0     958.0 *     184.
108. AG    241.   3.3   0.0 32.0
      77. 77                    *   2303.0     875.0    2103.0     866.0 *     200.
267. AG    612.   3.3   0.0 32.0
      78. 78                    *   2103.0     866.0    1894.0     859.0 *     209.
268. AG    612.   3.3   0.0 32.0
      79. 79                    *   1894.0     859.0    1686.0     865.0 *     208.
272. AG    612.   3.3   0.0 32.0
      80. 80                    *   1686.0     865.0    1470.0     902.0 *     219.
280. AG    612.   3.3   0.0 32.0
      81. 81                    *   1470.0     902.0    1390.0     893.0 *      81.
264. AG    612.   3.7   0.0 32.0
      82. 82                    *   1390.0     893.0    1332.0     838.0 *      80.
227. AG    612.   3.7   0.0 32.0
      83. 83                    *   1332.0     838.0    1250.0     589.0 *     262.
198. AG    612.   3.3   0.0 32.0
      84. 84                    *   1250.0     589.0    1207.0     498.0 *     101.
205. AG    612.   3.3   0.0 32.0
      85. 85                    *   1174.0     606.0    1154.0     508.0 *     100.
192. AG    420.   3.3   0.0 32.0
      86. 86                    *   1154.0     508.0    1053.0     203.0 *     321.
198. AG    420.   3.3   0.0 32.0
      87. 87                    *   1053.0     203.0    1019.0      68.0 *     139.
194. AG    420.   3.3   0.0 32.0
      88. 88                    *   1174.0     606.0     972.0      -2.0 *     641.
198. AG   1020.   3.3   0.0 32.0
      89. Q1-NB401 Thru         *   1671.2    1979.1    1637.9    1878.3 *     106.
198. AG     11. 100.0   0.0 12.0 0.57   5.4
      90. Q2-NB401 Thru         *   1682.6    1975.4    1649.3    1874.6 *     106.
198. AG     11. 100.0   0.0 12.0 0.57   5.4
      91. Q3-NB401 Thru         *   1694.0    1971.6    1660.7    1870.8 *     106.
198. AG     11. 100.0   0.0 12.0 0.57   5.4
      92. Q4-SB401 Thru         *   1276.7     994.1    2206.5    3812.2 *    2967.
18. AG     12. 100.0   0.0 12.0 1.27 150.7
      93. Q5-SB401 Thru         *   1288.1     990.4    2217.8    3808.5 *    2967.
18. AG     12. 100.0   0.0 12.0 1.27 150.7
      94. Q6-SB401 Thru         *   1299.5     986.6    2229.4    3804.6 *    2967.
18. AG     12. 100.0   0.0 12.0 1.27 150.7
      95. Q7-NB401 RT           *   1346.8     881.2    1308.1     764.0 *     123.
198. AG     12. 100.0   0.0 12.0 0.64   6.3
♀
                              PAGE  3
      JOB: Build Fayetteville 2035                                  RUN: Build
Fayetteville 2035

      DATE :  7/15/14
      TIME : 13:47: 3

       LINK VARIABLES
       --------------
         LINK DESCRIPTION     *         LINK COORDINATES (FT)          *    LENGTH
BRG TYPE   VPH    EF      H   W    V/C QUEUE
                               *   X1        Y1        X2        Y2     *     (FT)
(DEG)           (G/MI)  (FT) (FT)       (VEH)

------------------------*-----------------------------------------*------------------
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      96. Q8-NB401 Thru         *   1335.4     884.9    1297.7     770.8 *     120.
198. AG     12. 100.0   0.0 12.0 0.62   6.1
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      97. Q9-NB401 Thru       *   1324.0     888.7    1286.3     774.6 *     120.
198. AG     12. 100.0   0.0 12.0 0.62   6.1
      98. Q10-NB401 Thru      *   1312.6     892.5    1274.9     778.4 *     120.
198. AG     12. 100.0   0.0 12.0 0.62   6.1
      99. Q11-EB540 to NB540  *   1250.2     965.0     983.9    1052.7 *     280.
288. AG     29. 100.0   0.0 12.0 1.04  14.2
     100. Q12-EB540 to SB540  *   1246.4     953.6     222.5    1291.6 *    1078.
288. AG     29. 100.0   0.0 12.0 1.36  54.8
     101. Q13-EB540 to SB540  *   1242.7     942.2     218.6    1279.7 *    1078.
288. AG     29. 100.0   0.0 12.0 1.36  54.8
     102. Q14-EB Donny        *    925.5      57.4   -1179.7    1509.0 *    2557.
305. AG     31. 100.0   0.0 12.0 2.95 129.9
     103. Q15-WB Donny        *   1060.6       4.2    4845.0   -1243.9 *    3985.
108. AG     31. 100.0   0.0 12.0 4.09 202.4
     104. Q16-SB401atDonny LT *   1019.9      70.4    1956.8    3182.5 *    3250.
17. AG     31. 100.0   0.0 12.0 3.23 165.1
     105. Q17-SB401atDonny    *    993.0      58.0    2232.7    3813.2 *    3955.
18. AG     14. 100.0   0.0 12.0 1.40 200.9
     106. Q18-SB401atDonny    *    981.6      61.7    2221.3    3816.9 *    3955.
18. AG     14. 100.0   0.0 12.0 1.40 200.9
     107. Q19-SB401atDonny    *    970.2      65.5    2209.9    3820.7 *    3955.
18. AG     14. 100.0   0.0 12.0 1.40 200.9
     108. Q20-SB401atDonny RT *    958.8      69.3     973.0     112.4 *      45.
18. AG     14. 100.0   0.0 12.0 0.22   2.3
♀
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JOB: Build Fayetteville 2035 RUN: Build Fayetteville 2035

DATE : 7/15/14
TIME : 13:47: 3

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
89. Q1-NB401 Thru	*	110	34	5.0	571	1600	13.52	1	3
90. Q2-NB401 Thru	*	110	34	5.0	571	1600	13.52	1	3
91. Q3-NB401 Thru	*	110	34	5.0	571	1600	13.52	1	3
92. Q4-SB401 Thru	*	110	37	5.0	1217	1600	13.52	1	3
93. Q5-SB401 Thru	*	110	37	5.0	1217	1600	13.52	1	3
94. Q6-SB401 Thru	*	110	37	5.0	1217	1600	13.52	1	3
95. Q7-NB401 RT	*	110	37	5.0	610	1600	13.52	1	3
96. Q8-NB401 Thru	*	110	37	5.0	594	1600	13.52	1	3
97. Q9-NB401 Thru	*	110	37	5.0	594	1600	13.52	1	3
98. Q10-NB401 Thru	*	110	37	5.0	594	1600	13.52	1	3

99.	Q11-EB540 to NB540	*	110	87	5.0	241	1600	13.52	1	3
100.	Q12-EB540 to SB540	*	110	87	5.0	316	1600	13.52	1	3
101.	Q13-EB540 to SB540	*	110	87	5.0	316	1600	13.52	1	3
102.	Q14-EB Donny	*	110	95	5.0	342	1600	13.52	1	3
103.	Q15-WB Donny	*	110	95	5.0	474	1600	13.52	1	3
104.	Q16-SB401atDonny LT	*	110	94	5.0	420	1600	13.52	1	3
105.	Q17-SB401atDonny	*	110	43	5.0	1224	1600	13.52	1	3
106.	Q18-SB401atDonny	*	110	43	5.0	1224	1600	13.52	1	3
107.	Q19-SB401atDonny	*	110	43	5.0	1224	1600	13.52	1	3
108.	Q20-SB401atDonny RT	*	110	43	5.0	193	1600	13.52	1	3

RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (FT) X	Y	Z
1. US401-1	*	990.0	939.2	6.0
2. US401-2	*	1084.6	844.3	6.0
3. US401-3	*	1136.4	792.3	6.0
4. US401-4	*	1024.3	452.7	6.0
5. US401-5	*	964.0	270.1	6.0
6. US401-6	*	864.8	177.7	6.0
7. US401-7	*	737.4	130.6	6.0
8. US401-8	*	843.1	48.5	6.0
9. US401-9	*	869.5	-64.1	6.0
10. US401-10	*	1141.9	7.6	6.0
11. US401-11	*	1310.2	569.3	6.0
12. US401-12	*	1358.4	715.4	6.0
13. US401-13	*	1544.3	790.2	6.0

♀

JOB: Build Fayetteville 2035 RUN: Build Fayetteville 2035

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-355.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13
0.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.5	0.1	0.3	0.0

5.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.4	0.4	0.4
0.0													
10.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.1
0.0													
15.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
0.0													
20.	*	0.0	0.0	0.4	0.2	0.3	0.0	0.1	0.0	0.3	0.0	0.0	0.0
0.0													
25.	*	0.0	0.1	0.4	0.4	0.3	0.0	0.1	0.2	0.4	0.0	0.0	0.0
0.0													
30.	*	0.0	0.3	0.4	0.4	0.3	0.2	0.1	0.2	0.5	0.0	0.0	0.0
0.0													
35.	*	0.0	0.3	0.5	0.4	0.3	0.2	0.1	0.2	0.5	0.0	0.0	0.0
0.0													
40.	*	0.0	0.3	0.3	0.4	0.3	0.2	0.1	0.3	0.3	0.0	0.0	0.0
0.0													
45.	*	0.0	0.3	0.3	0.2	0.3	0.2	0.3	0.3	0.3	0.0	0.0	0.0
0.0													
50.	*	0.0	0.0	0.3	0.2	0.3	0.2	0.2	0.3	0.3	0.0	0.0	0.0
0.0													
55.	*	0.0	0.0	0.3	0.3	0.3	0.2	0.1	0.2	0.1	0.0	0.0	0.0
0.0													
60.	*	0.0	0.1	0.3	0.3	0.3	0.2	0.1	0.2	0.0	0.0	0.0	0.0
0.0													
65.	*	0.0	0.2	0.3	0.3	0.3	0.2	0.1	0.2	0.0	0.0	0.0	0.0
0.0													
70.	*	0.0	0.3	0.3	0.3	0.3	0.2	0.1	0.2	0.0	0.0	0.0	0.0
0.0													
75.	*	0.0	0.3	0.3	0.3	0.3	0.2	0.1	0.2	0.0	0.0	0.0	0.0
0.0													
80.	*	0.0	0.3	0.3	0.3	0.3	0.2	0.1	0.2	0.0	0.0	0.0	0.0
0.0													
85.	*	0.0	0.3	0.3	0.3	0.3	0.2	0.1	0.2	0.0	0.0	0.0	0.0
0.0													
90.	*	0.0	0.2	0.3	0.2	0.2	0.2	0.1	0.2	0.1	0.0	0.0	0.0
0.0													
95.	*	0.0	0.3	0.3	0.3	0.3	0.2	0.1	0.2	0.1	0.0	0.0	0.0
0.0													
100.	*	0.0	0.3	0.3	0.3	0.3	0.2	0.1	0.3	0.1	0.0	0.0	0.0
0.0													
105.	*	0.0	0.3	0.3	0.3	0.3	0.2	0.2	0.1	0.1	0.1	0.0	0.0
0.0													
110.	*	0.0	0.3	0.3	0.3	0.3	0.3	0.1	0.1	0.0	0.1	0.0	0.0
0.0													
115.	*	0.0	0.3	0.3	0.3	0.3	0.3	0.1	0.0	0.0	0.1	0.0	0.0
0.0													
120.	*	0.0	0.3	0.3	0.3	0.3	0.3	0.0	0.0	0.0	0.1	0.0	0.0
0.0													
125.	*	0.0	0.2	0.3	0.2	0.2	0.2	0.0	0.0	0.0	0.1	0.0	0.0
0.0													
130.	*	0.0	0.3	0.3	0.3	0.3	0.2	0.0	0.0	0.0	0.1	0.0	0.0
0.0													
135.	*	0.0	0.3	0.3	0.3	0.3	0.2	0.0	0.0	0.0	0.1	0.0	0.0
0.0													
140.	*	0.0	0.3	0.3	0.3	0.3	0.2	0.0	0.0	0.0	0.1	0.0	0.0
0.0													
145.	*	0.0	0.3	0.3	0.3	0.3	0.1	0.0	0.0	0.0	0.1	0.0	0.0
0.0													
150.	*	0.0	0.2	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.1	0.0	0.0
0.0													
155.	*	0.0	0.2	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.1	0.0	0.0
0.0													
160.	*	0.0	0.2	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.1	0.0	0.0

```
0.0
 165.  *   0.0   0.2   0.3   0.3   0.3   0.0   0.0   0.0   0.0   0.1   0.0   0.0
0.0
 170.  *   0.0   0.2   0.2   0.3   0.3   0.0   0.0   0.0   0.0   0.1   0.0   0.0
0.0
 175.  *   0.0   0.2   0.4   0.3   0.2   0.0   0.0   0.0   0.0   0.1   0.0   0.0
0.0
 180.  *   0.0   0.2   0.4   0.3   0.2   0.0   0.0   0.0   0.0   0.1   0.0   0.0
0.0
 185.  *   0.0   0.2   0.3   0.2   0.1   0.0   0.0   0.0   0.0   0.1   0.0   0.0
0.0
 190.  *   0.0   0.0   0.3   0.2   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.0
0.0
 195.  *   0.0   0.0   0.2   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.0
0.0
 200.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.0
0.0
 205.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.0
0.0
♀
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 WIND  * CONCENTRATION
 ANGLE *      (PPM)
 (DEGR)* REC1  REC2  REC3  REC4  REC5  REC6  REC7  REC8  REC9  REC10 REC11 REC12
REC13

------*-------------------------------------------------------------------------
-
 210.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.2   0.1
0.0
 215.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.4   0.5
0.0
 220.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.6   0.5
0.0
 225.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.6   0.4
0.0
 230.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.4   0.3
0.0
 235.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.3   0.3
0.0
 240.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.2   0.2
0.0
 245.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.2   0.2
0.0
 250.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.2   0.3
0.0
 255.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.2   0.3
0.0
 260.  *   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.0   0.0   0.1   0.2   0.3
0.0
 265.  *   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.0   0.0   0.1   0.2   0.3
0.0
 270.  *   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.0   0.0   0.0   0.1   0.2
0.0
 275.  *   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.0   0.0   0.0   0.1   0.2
0.0
 280.  *   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.0   0.0   0.0   0.2   0.3
0.0
 285.  *   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.0   0.0   0.0   0.2   0.3
0.0
```

```
 290.  *   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.0   0.0   0.1   0.2   0.3
0.0
 295.  *   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.0   0.0   0.1   0.2   0.3
0.0
 300.  *   0.1   0.0   0.0   0.0   0.0   0.1   0.0   0.0   0.0   0.1   0.2   0.2
0.0
 305.  *   0.2   0.0   0.0   0.0   0.0   0.1   0.1   0.1   0.0   0.0   0.2   0.2
0.0
 310.  *   0.1   0.0   0.0   0.0   0.0   0.0   0.1   0.1   0.0   0.1   0.3   0.3
0.0
 315.  *   0.1   0.0   0.0   0.0   0.0   0.0   0.1   0.1   0.1   0.1   0.3   0.3
0.0
 320.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.1   0.1   0.1   0.3   0.3
0.0
 325.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.1   0.0   0.2   0.3   0.3
0.0
 330.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.1   0.0   0.2   0.3   0.3
0.0
 335.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.1   0.0   0.2   0.3   0.2
0.0
 340.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.1   0.0   0.2   0.3   0.1
0.0
 345.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.1   0.0   0.2   0.4   0.0
0.0
 350.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.1   0.0   0.3   0.3   0.0
0.0
 355.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.1   0.0   0.3   0.2   0.3
0.0

------*-------------------------------------------------------------------------
-
 MAX   *   0.2   0.3   0.5   0.4   0.3   0.3   0.3   0.3   0.5   0.5   0.6   0.5
0.0
 DEGR. *  305    30    35    25    20   110    45    40    30     0   220   215
0

 THE HIGHEST CONCENTRATION OF    0.60 PPM OCCURRED AT RECEPTOR REC11.
```

♀ CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated 95221

JOB: No Build Fayetteville 2022 RUN: No Build Fayetteville 2022

DATE : 7/15/14
TIME : 13:47: 1

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 108. CM
U = 1.0 M/S CLAS = 5 (E) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 PPM

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT)				*	LENGTH	BRG	TYPE	VPH	EF	H	W	V/C	QUEUE
	*	X1	Y1	X2	Y2	*	(FT)	(DEG)			(G/MI)	(FT)	(FT)		(VEH)
1. 1	*	1575.0	1903.0	1295.0	1076.0	*	873.	199.	AG	1358.	3.9	0.0	32.0		
2. 2	*	1295.0	1076.0	935.0	11.0	*	1124.	199.	AG	1280.	3.9	0.0	32.0		
3. 3	*	950.0	5.0	1306.0	1072.0	*	1125.	18.	AG	1280.	3.9	0.0	32.0		
4. 4	*	1306.0	1072.0	1518.0	1708.0	*	670.	18.	AG	1096.	3.9	0.0	32.0		
5. 5	*	1518.0	1708.0	1582.0	1901.0	*	203.	18.	AG	1358.	3.9	0.0	32.0		
6. 6	*	1518.0	1708.0	1440.0	1447.0	*	272.	197.	AG	262.	3.9	0.0	32.0		
7. 7	*	1440.0	1447.0	1339.0	1144.0	*	319.	198.	AG	262.	3.9	0.0	32.0		
8. 8	*	1622.0	1888.0	1336.0	1053.0	*	883.	199.	AG	742.	3.9	0.0	32.0		
9. 9	*	1336.0	1053.0	972.0	-2.0	*	1116.	199.	AG	678.	3.9	0.0	32.0		
10. 10	*	987.0	-7.0	1249.0	752.0	*	803.	19.	AG	678.	3.9	0.0	32.0		
11. 11	*	1249.0	752.0	1351.0	1048.0	*	313.	19.	AG	621.	3.9	0.0	32.0		
12. 12	*	1351.0	1048.0	1638.0	1883.0	*	883.	19.	AG	744.	3.9	0.0	32.0		
13. 13	*	1249.0	752.0	1296.0	869.0	*	126.	22.	AG	57.	3.9	0.0	32.0		
14. 14	*	1296.0	869.0	1356.0	1026.0	*	168.	21.	AG	57.	3.9	0.0	32.0		
15. 15	*	497.0	1528.0	645.0	1395.0	*	199.	132.	AG	342.	4.4	0.0	32.0		
16. 16	*	645.0	1395.0	805.0	1275.0	*	200.	127.	AG	342.	4.4	0.0	32.0		
17. 17	*	805.0	1275.0	968.0	1216.0	*	173.	110.	AG	342.	4.4	0.0	32.0		
18. 18	*	968.0	1216.0	1301.0	1094.0	*	355.	110.	AG	124.	4.4	0.0	32.0		
19. 19	*	1295.0	1076.0	1126.0	1144.0	*	182.								

```
292. AG    218.   4.4   0.0 32.0
      20. 20                    *   1126.0    1144.0     968.0    1216.0 *     174.
294. AG    218.   4.4   0.0 32.0
      21. 21                    *    505.0    1539.0     649.0    1404.0 *     197.
133. AG    187.   4.4   0.0 32.0
      22. 22                    *    649.0    1404.0     828.0    1276.0 *     220.
126. AG    187.   4.4   0.0 32.0
      23. 23                    *    828.0    1276.0    1017.0    1207.0 *     201.
110. AG    187.   4.4   0.0 32.0
      24. 24                    *   1017.0    1207.0    1307.0    1112.0 *     305.
108. AG    187.   4.4   0.0 32.0
      25. 25                    *   1387.0    1065.0    1542.0    1010.0 *     164.
110. AG    126.   4.4   0.0 32.0
      26. 26                    *   1542.0    1010.0    1703.0     943.0 *     174.
113. AG    126.   4.4   0.0 32.0
      27. 27                    *   2285.0     738.0    1703.0     943.0 *     617.
289. AG    205.   4.4   0.0 32.0
      28. 28                    *   1703.0     943.0    1356.0    1064.0 *     367.
289. AG     79.   4.4   0.0 32.0
      29. 29                    *   1351.0    1048.0    2283.0     728.0 *     985.
109. AG    387.   4.4   0.0 32.0
      30. Q1-NB 401             *   1372.4    1032.8    1342.4     942.5 *      95.
198. AG     22. 100.0   0.0 12.0 0.80   4.8
      31. Q2-NB 401             *   1361.6    1037.4    1331.6     947.1 *      95.
198. AG     22. 100.0   0.0 12.0 0.80   4.8
      32. Q3-NB 401 LT          *   1349.6    1041.7    1347.0    1033.5 *       9.
198. AG     22. 100.0   0.0 12.0 0.08   0.4
      33. Q4-EB Donny LT        *   1309.9    1102.2     984.6    1241.7 *     354.
293. AG     47. 100.0   0.0 12.0 1.27  18.0
      34. Q5-EB Donny Thru&RT   *   1304.0    1092.8    -694.7    2002.2 *    2196.
294. AG     50. 100.0   0.0 12.0 9.08 111.6
      35. Q6-SB 401             *   1341.9    1155.5    2737.5    5394.9 *    4463.
18. AG     22. 100.0   0.0 12.0 1.51 226.7
      36. Q7-SB 401             *   1354.0    1152.2    2750.1    5391.4 *    4463.
18. AG     22. 100.0   0.0 12.0 1.51 226.7
      37. Q8-SB 401 LT          *   1366.0    1147.1    1376.9    1181.2 *      36.
18. AG     22. 100.0   0.0 12.0 0.32   1.8
      38. Q9-WB Donny Thru&RT   *   1408.1    1077.4    2786.5     597.4 *    1460.
109. AG     50. 100.0   0.0 12.0 6.33  74.1
      39. Q10-WB Donny LT       *   1402.5    1064.5    1418.1    1058.9 *      17.
110. AG     47. 100.0   0.0 12.0 0.54   0.8
♀
```


JOB: No Build Fayetteville 2022 RUN: No Build Fayetteville 2022

DATE : 7/15/14
TIME : 13:47: 1

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
30. Q1-NB 401	*	65	25	5.0	647	1600	21.05	1	3
31. Q2-NB 401	*	65	25	5.0	647	1600			

```
21.05      1        3
      32. Q3-NB 401 LT        *      65       25       5.0        63       1600
21.05      1        3
      33. Q4-EB Donny LT      *      65       54       5.0       124       1600
21.05      1        3
      34. Q5-EB Donny Thru&RT *      65       57       5.0       218       1600
21.05      1        3
      35. Q6-SB 401           *      65       25       5.0      1227       1600
21.05      1        3
      36. Q7-SB 401           *      65       25       5.0      1227       1600
21.05      1        3
      37. Q8-SB 401 LT        *      65       25       5.0       262       1600
21.05      1        3
      38. Q9-WB Donny Thru&RT *      65       57       5.0       152       1600
21.05      1        3
      39. Q10-WB Donny LT     *      65       54       5.0        53       1600
21.05      1        3

       RECEPTOR LOCATIONS
       ------------------

                               *           COORDINATES (FT)          *
         RECEPTOR              *      X          Y          Z         *
     --------------------------*-----------------------------------*
      1. US401-1               *       990.0      939.2        6.0   *
      2. US401-2               *      1084.6      844.3        6.0   *
      3. US401-3               *      1136.4      792.3        6.0   *
      4. US401-4               *      1024.3      452.7        6.0   *
      5. US401-5               *       964.0      270.1        6.0   *
      6. US401-6               *       864.8      177.7        6.0   *
      7. US401-7               *       737.4      130.6        6.0   *
      8. US401-8               *       843.1       48.5        6.0   *
      9. US401-9               *       869.5      -64.1        6.0   *
     10. US401-10              *      1141.9        7.6        6.0   *
     11. US401-11              *      1310.2      569.3        6.0   *
     12. US401-12              *      1358.4      715.4        6.0   *
     13. US401-13              *      1544.3      790.2        6.0   *
♀
                              PAGE  3
      JOB: No Build Fayetteville 2022                        RUN: No Build
Fayetteville 2022

       MODEL RESULTS
       -------------

       REMARKS : In search of the angle corresponding to
                 the maximum concentration, only the first
                 angle, of the angles with same maximum
                 concentrations, is indicated as maximum.

 WIND ANGLE RANGE:   0.-355.

 WIND  * CONCENTRATION
 ANGLE *      (PPM)
 (DEGR)* REC1  REC2  REC3  REC4  REC5  REC6  REC7  REC8  REC9  REC10 REC11 REC12
REC13

------*-------------------------------------------------------------------------
-
   0.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.2   0.0   0.2
0.0
   5.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.2   0.1   0.2
0.0
  10.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.1
```

0.0													
15.	*	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.2	0.0	0.0	0.0
0.0													
20.	*	0.0	0.0	0.2	0.2	0.2	0.0	0.0	0.1	0.3	0.0	0.0	0.0
0.0													
25.	*	0.0	0.1	0.3	0.2	0.2	0.2	0.0	0.2	0.5	0.0	0.0	0.0
0.0													
30.	*	0.0	0.2	0.4	0.2	0.4	0.2	0.0	0.2	0.6	0.0	0.0	0.0
0.0													
35.	*	0.0	0.2	0.2	0.4	0.4	0.2	0.1	0.2	0.6	0.0	0.0	0.0
0.0													
40.	*	0.1	0.1	0.2	0.4	0.4	0.2	0.2	0.2	0.4	0.0	0.0	0.0
0.0													
45.	*	0.1	0.1	0.2	0.3	0.3	0.2	0.2	0.2	0.4	0.0	0.0	0.0
0.0													
50.	*	0.1	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.1	0.0	0.0	0.0
0.0													
55.	*	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0
0.0													
60.	*	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0
0.0													
65.	*	0.0	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.0	0.0	0.0	0.0
0.0													
70.	*	0.0	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.0	0.0	0.0	0.0
0.0													
75.	*	0.0	0.2	0.2	0.2	0.2	0.2	0.0	0.2	0.0	0.0	0.0	0.0
0.0													
80.	*	0.0	0.2	0.2	0.2	0.2	0.2	0.0	0.2	0.0	0.0	0.0	0.0
0.0													
85.	*	0.0	0.2	0.2	0.2	0.2	0.2	0.0	0.2	0.0	0.0	0.0	0.0
0.0													
90.	*	0.0	0.2	0.2	0.2	0.2	0.2	0.0	0.2	0.0	0.0	0.0	0.0
0.0													
95.	*	0.0	0.2	0.2	0.2	0.2	0.2	0.0	0.2	0.0	0.0	0.0	0.0
0.0													
100.	*	0.0	0.2	0.2	0.2	0.2	0.2	0.0	0.2	0.0	0.0	0.0	0.0
0.0													
105.	*	0.0	0.2	0.2	0.2	0.2	0.2	0.0	0.2	0.0	0.0	0.0	0.0
0.0													
110.	*	0.0	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0
0.0													
115.	*	0.0	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0
0.0													
120.	*	0.0	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0
0.0													
125.	*	0.0	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0
0.0													
130.	*	0.0	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0
0.0													
135.	*	0.0	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0
0.0													
140.	*	0.0	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0
0.0													
145.	*	0.0	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0
0.0													
150.	*	0.0	0.2	0.2	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0
0.0													
155.	*	0.0	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0													
160.	*	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0													
165.	*	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0													

170.	*	0.2	0.2	0.3	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175.	*	0.1	0.2	0.3	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180.	*	0.0	0.2	0.4	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
185.	*	0.0	0.2	0.4	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
190.	*	0.0	0.2	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
195.	*	0.0	0.0	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
200.	*	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
205.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

♀

WIND ANGLE (DEGR)	*	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13
210.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
215.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.0
220.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.0
225.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0
230.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0
235.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0
240.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0
245.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0
250.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0
255.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0
260.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0
265.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0
270.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0
275.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0
280.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0
285.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0
290.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.0
295.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	

```
0.0
 300.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.2   0.2
0.1
 305.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.2   0.2
0.1
 310.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.2   0.2   0.2
0.1
 315.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.2   0.2   0.2
0.0
 320.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.2   0.2   0.2
0.0
 325.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.2   0.2   0.2
0.0
 330.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.2   0.2   0.2
0.0
 335.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.2   0.2   0.2
0.0
 340.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.2   0.2   0.2
0.0
 345.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.2   0.2   0.1
0.0
 350.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.2   0.2   0.0
0.0
 355.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.2   0.1   0.1
0.0

------*-------------------------------------------------------------------------
-
 MAX   *   0.2   0.2   0.4   0.4   0.4   0.2   0.2   0.2   0.6   0.2   0.2   0.3
0.1
 DEGR. *  160    30    30    35    30    25    40    25    30     0   220   220
300

 THE HIGHEST CONCENTRATION OF    0.60 PPM OCCURRED AT RECEPTOR REC9 .
```

♀ CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated 95221

JOB: No Build Fayetteville 2022 RUN: No Build Fayetteville 2027

DATE : 7/15/14
TIME : 13:47: 2

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 108. CM
U = 1.0 M/S CLAS = 5 (E) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 PPM

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT)				*	LENGTH	BRG	TYPE	VPH	EF	H	W	V/C	QUEUE
	*	X1	Y1	X2	Y2	*	(FT)	(DEG)		(G/MI)	(FT)	(FT)		(VEH)	
1. 1	*	1575.0	1903.0	1295.0	1076.0	*	873.	199.	AG	1516.	3.5	0.0	32.0		
2. 2	*	1295.0	1076.0	935.0	11.0	*	1124.	199.	AG	1438.	3.5	0.0	32.0		
3. 3	*	950.0	5.0	1306.0	1072.0	*	1125.	18.	AG	1438.	3.5	0.0	32.0		
4. 4	*	1306.0	1072.0	1518.0	1708.0	*	670.	18.	AG	1233.	3.5	0.0	32.0		
5. 5	*	1518.0	1708.0	1582.0	1901.0	*	203.	18.	AG	1515.	3.5	0.0	32.0		
6. 6	*	1518.0	1708.0	1440.0	1447.0	*	272.	197.	AG	283.	3.5	0.0	32.0		
7. 7	*	1440.0	1447.0	1339.0	1144.0	*	319.	198.	AG	283.	3.5	0.0	32.0		
8. 8	*	1622.0	1888.0	1336.0	1053.0	*	883.	199.	AG	828.	3.5	0.0	32.0		
9. 9	*	1336.0	1053.0	972.0	-2.0	*	1116.	199.	AG	763.	3.5	0.0	32.0		
10. 10	*	987.0	-7.0	1249.0	752.0	*	803.	19.	AG	763.	3.5	0.0	32.0		
11. 11	*	1249.0	752.0	1351.0	1048.0	*	313.	19.	AG	491.	3.5	0.0	32.0		
12. 12	*	1351.0	1048.0	1638.0	1883.0	*	883.	19.	AG	828.	3.5	0.0	32.0		
13. 13	*	1249.0	752.0	1296.0	869.0	*	126.	22.	AG	72.	3.5	0.0	32.0		
14. 14	*	1296.0	869.0	1356.0	1026.0	*	168.	21.	AG	72.	3.5	0.0	32.0		
15. 15	*	497.0	1528.0	645.0	1395.0	*	199.	132.	AG	394.	3.9	0.0	32.0		
16. 16	*	645.0	1395.0	805.0	1275.0	*	200.	127.	AG	394.	3.9	0.0	32.0		
17. 17	*	805.0	1275.0	968.0	1216.0	*	173.	110.	AG	394.	3.9	0.0	32.0		
18. 18	*	968.0	1216.0	1301.0	1094.0	*	355.	110.	AG	139.	3.9	0.0	32.0		
19. 19	*	1295.0	1076.0	1126.0	1144.0	*	182.								

```
292. AG    255.   3.9   0.0 32.0
      20. 20                    *   1126.0    1144.0     968.0    1216.0 *     174.
294. AG    255.   3.9   0.0 32.0
      21. 21                    *    505.0    1539.0     649.0    1404.0 *     197.
133. AG    215.   3.9   0.0 32.0
      22. 22                    *    649.0    1404.0     828.0    1276.0 *     220.
126. AG    215.   3.9   0.0 32.0
      23. 23                    *    828.0    1276.0    1017.0    1207.0 *     201.
110. AG    215.   3.9   0.0 32.0
      24. 24                    *   1017.0    1207.0    1307.0    1112.0 *     305.
108. AG    215.   3.9   0.0 32.0
      25. 25                    *   1387.0    1065.0    1542.0    1010.0 *     164.
110. AG    167.   3.9   0.0 32.0
      26. 26                    *   1542.0    1010.0    1703.0     943.0 *     174.
113. AG    167.   3.9   0.0 32.0
      27. 27                    *   2285.0     738.0    1703.0     943.0 *     617.
289. AG    233.   3.9   0.0 32.0
      28. 28                    *   1703.0     943.0    1356.0    1064.0 *     367.
289. AG     66.   3.9   0.0 32.0
      29. 29                    *   1351.0    1048.0    2283.0     728.0 *     985.
109. AG    439.   3.9   0.0 32.0
      30. Q1-NB 401             *   1372.4    1032.8    1328.9     901.9 *     138.
198. AG     17. 100.0   0.0 12.0 0.90   7.0
      31. Q2-NB 401             *   1361.6    1037.4    1318.1     906.5 *     138.
198. AG     17. 100.0   0.0 12.0 0.90   7.0
      32. Q3-NB 401 LT          *   1349.6    1041.7    1346.6    1032.3 *      10.
198. AG     17. 100.0   0.0 12.0 0.09   0.5
      33. Q4-EB Donny LT        *   1309.9    1102.2     838.0    1304.5 *     513.
293. AG     36. 100.0   0.0 12.0 1.42  26.1
      34. Q5-EB Donny Thru&RT   *   1304.0    1092.8   -1070.4    2173.2 *    2609.
294. AG     38. 100.0   0.0 12.0 **** 132.5
      35. Q6-SB 401             *   1341.9    1155.5    3207.2    6821.9 *    5966.
18. AG     17. 100.0   0.0 12.0 1.69 303.0
      36. Q7-SB 401             *   1354.0    1152.2    3220.1    6818.4 *    5966.
18. AG     17. 100.0   0.0 12.0 1.69 303.0
      37. Q8-SB 401 LT          *   1366.0    1147.1    1377.8    1183.9 *      39.
18. AG     17. 100.0   0.0 12.0 0.35   2.0
      38. Q9-WB Donny Thru&RT   *   1408.1    1077.4    2944.5     542.4 *    1627.
109. AG     38. 100.0   0.0 12.0 6.96  82.6
      39. Q10-WB Donny LT       *   1402.5    1064.5    1425.0    1056.5 *      24.
110. AG     36. 100.0   0.0 12.0 0.67   1.2
♀
```


JOB: No Build Fayetteville 2022 RUN: No Build Fayetteville 2027

DATE : 7/15/14
TIME : 13:47: 2

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
30. Q1-NB 401	*	65	25	5.0	727	1600	16.11	1	3
31. Q2-NB 401	*	65	25	5.0	727	1600			

```
16.11      1        3
      32. Q3-NB 401 LT        *      65       25       5.0        72       1600
16.11      1        3
      33. Q4-EB Donny LT      *      65       54       5.0       139       1600
16.11      1        3
      34. Q5-EB Donny Thru&RT *      65       57       5.0       255       1600
16.11      1        3
      35. Q6-SB 401           *      65       25       5.0      1375       1600
16.11      1        3
      36. Q7-SB 401           *      65       25       5.0      1375       1600
16.11      1        3
      37. Q8-SB 401 LT        *      65       25       5.0       283       1600
16.11      1        3
      38. Q9-WB Donny Thru&RT *      65       57       5.0       167       1600
16.11      1        3
      39. Q10-WB Donny LT     *      65       54       5.0        66       1600
16.11      1        3
```

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. US401-1	990.0	939.2	6.0
2. US401-2	1084.6	844.3	6.0
3. US401-3	1136.4	792.3	6.0
4. US401-4	1024.3	452.7	6.0
5. US401-5	964.0	270.1	6.0
6. US401-6	864.8	177.7	6.0
7. US401-7	737.4	130.6	6.0
8. US401-8	843.1	48.5	6.0
9. US401-9	869.5	-64.1	6.0
10. US401-10	1141.9	7.6	6.0
11. US401-11	1310.2	569.3	6.0
12. US401-12	1358.4	715.4	6.0
13. US401-13	1544.3	790.2	6.0

♀

JOB: No Build Fayetteville 2022 RUN: No Build Fayetteville 2027

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-355.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13
0.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.2	0.0
5.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.2	0.0
10.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	

0.0													
15.	*	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.2	0.0	0.0	0.0
0.0													
20.	*	0.0	0.0	0.2	0.2	0.2	0.0	0.0	0.1	0.3	0.0	0.0	0.0
0.0													
25.	*	0.0	0.1	0.3	0.2	0.2	0.2	0.0	0.2	0.5	0.0	0.0	0.0
0.0													
30.	*	0.0	0.2	0.4	0.2	0.4	0.2	0.0	0.2	0.6	0.0	0.0	0.0
0.0													
35.	*	0.0	0.2	0.2	0.4	0.4	0.2	0.1	0.2	0.5	0.0	0.0	0.0
0.0													
40.	*	0.1	0.1	0.2	0.3	0.4	0.2	0.2	0.2	0.4	0.0	0.0	0.0
0.0													
45.	*	0.1	0.1	0.2	0.3	0.3	0.2	0.2	0.2	0.4	0.0	0.0	0.0
0.0													
50.	*	0.1	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.1	0.0	0.0	0.0
0.0													
55.	*	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0
0.0													
60.	*	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0
0.0													
65.	*	0.0	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.0	0.0	0.0	0.0
0.0													
70.	*	0.0	0.2	0.2	0.2	0.2	0.2	0.0	0.2	0.0	0.0	0.0	0.0
0.0													
75.	*	0.0	0.2	0.2	0.2	0.2	0.2	0.0	0.2	0.0	0.0	0.0	0.0
0.0													
80.	*	0.0	0.2	0.2	0.2	0.2	0.2	0.0	0.2	0.0	0.0	0.0	0.0
0.0													
85.	*	0.0	0.2	0.2	0.2	0.2	0.2	0.0	0.2	0.0	0.0	0.0	0.0
0.0													
90.	*	0.0	0.2	0.2	0.2	0.2	0.2	0.0	0.2	0.0	0.0	0.0	0.0
0.0													
95.	*	0.0	0.2	0.2	0.2	0.2	0.2	0.0	0.2	0.0	0.0	0.0	0.0
0.0													
100.	*	0.0	0.2	0.2	0.2	0.2	0.2	0.0	0.2	0.0	0.0	0.0	0.0
0.0													
105.	*	0.0	0.2	0.2	0.2	0.2	0.2	0.0	0.1	0.0	0.0	0.0	0.0
0.0													
110.	*	0.0	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0
0.0													
115.	*	0.0	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0
0.0													
120.	*	0.0	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0
0.0													
125.	*	0.0	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0
0.0													
130.	*	0.0	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0
0.0													
135.	*	0.0	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0
0.0													
140.	*	0.0	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0
0.0													
145.	*	0.0	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0
0.0													
150.	*	0.0	0.2	0.2	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0
0.0													
155.	*	0.0	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0													
160.	*	0.1	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0													
165.	*	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0													

170.	*	0.2	0.2	0.3	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175.	*	0.1	0.2	0.3	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180.	*	0.0	0.2	0.4	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
185.	*	0.0	0.2	0.4	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
190.	*	0.0	0.2	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
195.	*	0.0	0.0	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
200.	*	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
205.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

♀

JOB: No Build Fayetteville 2022 RUN: No Build Fayetteville 2027

WIND ANGLE (DEGR)	*	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13
210.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
215.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.0
220.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0
225.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0
230.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0
235.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0
240.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0
245.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0
250.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0
255.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0
260.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0
265.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0
270.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0
275.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0
280.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0
285.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0
290.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.0
295.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	

```
0.0
 300.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.2   0.2
0.0
 305.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.2   0.2
0.1
 310.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.2   0.2
0.0
 315.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.2   0.2
0.0
 320.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.2   0.2   0.2
0.0
 325.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.2   0.2   0.2
0.0
 330.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.2   0.2   0.2
0.0
 335.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.2   0.2   0.2
0.0
 340.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.2   0.2   0.2
0.0
 345.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.2   0.2   0.1
0.0
 350.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.2   0.2   0.0
0.0
 355.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.2   0.1   0.1
0.0

------*-------------------------------------------------------------------------
-
 MAX   *   0.2   0.2   0.4   0.4   0.4   0.2   0.2   0.2   0.6   0.2   0.2   0.2
0.1
 DEGR. *  165    30    30    35    30    25    40    25    30     0   220     0
305

 THE HIGHEST CONCENTRATION OF    0.60 PPM OCCURRED AT RECEPTOR REC9 .
```

♀ CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated 95221

JOB: No Build Fayetteville 2035 RUN: No Build Fayetteville 2035

DATE : 7/15/14
TIME : 13:47: 2

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 108. CM
U = 1.0 M/S CLAS = 5 (E) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 PPM

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT)				*	LENGTH	BRG	TYPE	VPH	EF	H	W	V/C	QUEUE
	*	X1	Y1	X2	Y2	*	(FT)	(DEG)			(G/MI)	(FT)	(FT)		(VEH)
1. 1	*	1575.0	1903.0	1295.0	1076.0	*	873.	199.	AG	1778.	3.3	0.0	32.0		
2. 2	*	1295.0	1076.0	935.0	11.0	*	1124.	199.	AG	1685.	3.3	0.0	32.0		
3. 3	*	950.0	5.0	1306.0	1072.0	*	1125.	18.	AG	1685.	3.3	0.0	32.0		
4. 4	*	1306.0	1072.0	1518.0	1708.0	*	670.	18.	AG	1472.	3.3	0.0	32.0		
5. 5	*	1518.0	1708.0	1582.0	1901.0	*	203.	18.	AG	1778.	3.3	0.0	32.0		
6. 6	*	1518.0	1708.0	1440.0	1447.0	*	272.	197.	AG	306.	3.3	0.0	32.0		
7. 7	*	1440.0	1447.0	1339.0	1144.0	*	319.	198.	AG	306.	3.3	0.0	32.0		
8. 8	*	1622.0	1888.0	1336.0	1053.0	*	883.	199.	AG	958.	3.3	0.0	32.0		
9. 9	*	1336.0	1053.0	972.0	-2.0	*	1116.	199.	AG	907.	3.3	0.0	32.0		
10. 10	*	987.0	-7.0	1249.0	752.0	*	803.	19.	AG	907.	3.3	0.0	32.0		
11. 11	*	1249.0	752.0	1351.0	1048.0	*	313.	19.	AG	783.	3.3	0.0	32.0		
12. 12	*	1351.0	1048.0	1638.0	1883.0	*	883.	19.	AG	958.	3.3	0.0	32.0		
13. 13	*	1249.0	752.0	1296.0	869.0	*	126.	22.	AG	124.	3.3	0.0	32.0		
14. 14	*	1296.0	869.0	1356.0	1026.0	*	168.	21.	AG	124.	3.3	0.0	32.0		
15. 15	*	497.0	1528.0	645.0	1395.0	*	199.	132.	AG	481.	3.7	0.0	32.0		
16. 16	*	645.0	1395.0	805.0	1275.0	*	200.	127.	AG	481.	3.7	0.0	32.0		
17. 17	*	805.0	1275.0	968.0	1216.0	*	173.	110.	AG	481.	3.7	0.0	32.0		
18. 18	*	968.0	1216.0	1301.0	1094.0	*	355.	110.	AG	116.	3.7	0.0	32.0		
19. 19	*	1295.0	1076.0	1126.0	1144.0	*	182.								

```
292. AG    365.   3.7   0.0 32.0
      20. 20                    *   1126.0    1144.0     968.0    1216.0 *     174.
294. AG    365.   3.7   0.0 32.0
      21. 21                    *    505.0    1539.0     649.0    1404.0 *     197.
133. AG    259.   3.7   0.0 32.0
      22. 22                    *    649.0    1404.0     828.0    1276.0 *     220.
126. AG    259.   3.7   0.0 32.0
      23. 23                    *    828.0    1276.0    1017.0    1207.0 *     201.
110. AG    259.   3.7   0.0 32.0
      24. 24                    *   1017.0    1207.0    1307.0    1112.0 *     305.
108. AG    259.   3.7   0.0 32.0
      25. 25                    *   1387.0    1065.0    1542.0    1010.0 *     164.
110. AG    206.   3.7   0.0 32.0
      26. 26                    *   1542.0    1010.0    1703.0     943.0 *     174.
113. AG    206.   3.7   0.0 32.0
      27. 27                    *   2285.0     738.0    1703.0     943.0 *     617.
289. AG    273.   3.7   0.0 32.0
      28. 28                    *   1703.0     943.0    1356.0    1064.0 *     367.
289. AG     67.   3.7   0.0 32.0
      29. 29                    *   1351.0    1048.0    2283.0     728.0 *     985.
109. AG    507.   3.7   0.0 32.0
      30. Q1-NB 401             *   1372.4    1032.8     970.5    -178.0 *    1276.
198. AG     14. 100.0   0.0 12.0 1.12  64.8
      31. Q2-NB 401             *   1361.6    1037.4     959.0    -173.2 *    1276.
198. AG     14. 100.0   0.0 12.0 1.12  64.8
      32. Q3-NB 401 LT          *   1349.6    1041.7    1345.9    1030.2 *      12.
198. AG     14. 100.0   0.0 12.0 0.11   0.6
      33. Q4-EB Donny LT        *   1309.9    1102.2    1062.8    1208.1 *     269.
293. AG     30. 100.0   0.0 12.0 1.18  13.7
      34. Q5-EB Donny Thru&RT   *   1304.0    1092.8   -2187.5    2681.4 *    3836.
294. AG     32. 100.0   0.0 12.0 **** 194.9
      35. Q6-SB 401             *   1341.9    1155.5    4051.5    9386.7 *    8666.
18. AG     14. 100.0   0.0 12.0 2.02 440.2
      36. Q7-SB 401             *   1354.0    1152.2    4064.7    9383.0 *    8666.
18. AG     14. 100.0   0.0 12.0 2.02 440.2
      37. Q8-SB 401 LT          *   1366.0    1147.1    1377.5    1182.9 *      38.
18. AG     14. 100.0   0.0 12.0 0.34   1.9
      38. Q9-WB Donny Thru&RT   *   1408.1    1077.4    3355.4     399.3 *    2062.
109. AG     32. 100.0   0.0 12.0 8.58 104.7
      39. Q10-WB Donny LT       *   1402.5    1064.5    1425.7    1056.2 *      25.
110. AG     30. 100.0   0.0 12.0 0.68   1.3
♀
```


JOB: No Build Fayetteville 2035 RUN: No Build Fayetteville 2035

DATE : 7/15/14
TIME : 13:47: 2

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
30. Q1-NB 401	*	65	25	5.0	913	1600	13.52	1	3
31. Q2-NB 401	*	65	25	5.0	913	1600			

```
13.52      1        3
      32. Q3-NB 401 LT        *      65       25       5.0        88       1600
13.52      1        3
      33. Q4-EB Donny LT      *      65       54       5.0       116       1600
13.52      1        3
      34. Q5-EB Donny Thru&RT *      65       57       5.0       365       1600
13.52      1        3
      35. Q6-SB 401           *      65       25       5.0      1641       1600
13.52      1        3
      36. Q7-SB 401           *      65       25       5.0      1641       1600
13.52      1        3
      37. Q8-SB 401 LT        *      65       25       5.0       275       1600
13.52      1        3
      38. Q9-WB Donny Thru&RT *      65       57       5.0       206       1600
13.52      1        3
      39. Q10-WB Donny LT     *      65       54       5.0        67       1600
13.52      1        3
```

RECEPTOR LOCATIONS

RECEPTOR	X	Y	Z
1. US401-1	990.0	939.2	6.0
2. US401-2	1084.6	844.3	6.0
3. US401-3	1136.4	792.3	6.0
4. US401-4	1024.3	452.7	6.0
5. US401-5	964.0	270.1	6.0
6. US401-6	864.8	177.7	6.0
7. US401-7	737.4	130.6	6.0
8. US401-8	843.1	48.5	6.0
9. US401-9	869.5	-64.1	6.0
10. US401-10	1141.9	7.6	6.0
11. US401-11	1310.2	569.3	6.0
12. US401-12	1358.4	715.4	6.0
13. US401-13	1544.3	790.2	6.0

♀

JOB: No Build Fayetteville 2035 RUN: No Build Fayetteville 2035

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-355.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13
0.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.2	0.0
5.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.2	0.0
10.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	

0.0													
15.	*	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.2	0.0	0.0	0.0
0.0													
20.	*	0.0	0.0	0.2	0.2	0.2	0.0	0.0	0.1	0.3	0.0	0.0	0.0
0.0													
25.	*	0.0	0.1	0.3	0.2	0.3	0.2	0.0	0.2	0.5	0.0	0.0	0.0
0.0													
30.	*	0.0	0.2	0.5	0.3	0.4	0.2	0.0	0.2	0.6	0.0	0.0	0.0
0.0													
35.	*	0.1	0.2	0.3	0.4	0.5	0.2	0.2	0.3	0.6	0.0	0.0	0.0
0.0													
40.	*	0.1	0.2	0.2	0.4	0.5	0.2	0.2	0.3	0.4	0.0	0.0	0.0
0.0													
45.	*	0.1	0.1	0.2	0.4	0.5	0.2	0.2	0.2	0.4	0.0	0.0	0.0
0.0													
50.	*	0.1	0.2	0.3	0.3	0.4	0.2	0.2	0.2	0.3	0.0	0.0	0.0
0.0													
55.	*	0.1	0.2	0.3	0.3	0.3	0.2	0.2	0.2	0.0	0.0	0.0	0.0
0.0													
60.	*	0.0	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.0	0.0	0.0	0.0
0.0													
65.	*	0.0	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.0	0.0	0.0	0.0
0.0													
70.	*	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0
0.0													
75.	*	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0
0.0													
80.	*	0.0	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.0	0.0	0.0	0.0
0.0													
85.	*	0.0	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.0	0.0	0.0	0.0
0.0													
90.	*	0.0	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.0	0.0	0.0	0.0
0.0													
95.	*	0.0	0.2	0.2	0.2	0.2	0.2	0.0	0.2	0.0	0.0	0.0	0.0
0.0													
100.	*	0.0	0.2	0.2	0.2	0.2	0.2	0.0	0.2	0.0	0.0	0.0	0.0
0.0													
105.	*	0.0	0.2	0.2	0.2	0.2	0.2	0.0	0.2	0.0	0.0	0.0	0.0
0.0													
110.	*	0.0	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0
0.0													
115.	*	0.0	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0
0.0													
120.	*	0.0	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0
0.0													
125.	*	0.0	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0
0.0													
130.	*	0.0	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0
0.0													
135.	*	0.0	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0
0.0													
140.	*	0.1	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0
0.0													
145.	*	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0
0.0													
150.	*	0.2	0.2	0.2	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0
0.0													
155.	*	0.2	0.2	0.2	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0													
160.	*	0.2	0.2	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0													
165.	*	0.2	0.2	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0													

170.	*	0.2	0.2	0.4	0.4	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175.	*	0.2	0.2	0.5	0.4	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180.	*	0.0	0.2	0.5	0.4	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
185.	*	0.0	0.2	0.4	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
190.	*	0.0	0.2	0.3	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
195.	*	0.0	0.0	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
200.	*	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
205.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

♀

JOB: No Build Fayetteville 2035 RUN: No Build Fayetteville 2035

WIND ANGLE (DEGR)	*	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13
210.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
215.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.0
220.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.4	0.0
225.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.4	0.0
230.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.0
235.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0
240.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0
245.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0
250.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0
255.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0
260.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0
265.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0
270.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0
275.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0
280.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0
285.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.0
290.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.0
295.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	

300.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2
305.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2
310.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2
315.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2
320.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2
325.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2
330.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2
335.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2
340.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2
345.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2
350.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0
355.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.1
MAX	*	0.2	0.2	0.5	0.4	0.5	0.2	0.2	0.3	0.6	0.2	0.3	0.4
DEGR.	*	145	30	30	35	35	25	35	35	30	0	220	220

THE HIGHEST CONCENTRATION OF 0.60 PPM OCCURRED AT RECEPTOR REC9 .

♀ CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated 95221

JOB: Build Old Stage 2022 RUN: Build Old Stage 2022

DATE : 7/15/14
TIME : 13:47: 4

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 108. CM
U = 1.0 M/S CLAS = 5 (E) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 PPM

LINK VARIABLES

	LINK DESCRIPTION	*	LINK COORDINATES (FT)				*	LENGTH	BRG	TYPE	VPH	EF	H	W	V/C	QUEUE
		*	X1	Y1	X2	Y2	*	(FT)	(DEG)			(G/MI)	(FT)	(FT)		(VEH)
1.	1	*	1000.0	1714.0	1175.0	702.0	*	1027.	170.	AG	720.	3.9	0.0	32.0		
2.	2	*	1175.0	702.0	1327.0	-172.0	*	887.	170.	AG	656.	3.9	0.0	32.0		
3.	3	*	1327.0	-172.0	1289.0	-352.0	*	184.	192.	AG	494.	4.4	0.0	32.0		
4.	4	*	1289.0	-352.0	1126.0	-453.0	*	192.	238.	AG	494.	4.4	0.0	32.0		
5.	5	*	1126.0	-453.0	944.0	-395.0	*	191.	288.	AG	494.	4.4	0.0	32.0		
6.	6	*	944.0	-395.0	872.0	-218.0	*	191.	338.	AG	494.	4.4	0.0	32.0		
7.	7	*	872.0	-218.0	960.0	-48.0	*	191.	27.	AG	494.	4.4	0.0	32.0		
8.	8	*	960.0	-48.0	1145.0	2.0	*	192.	75.	AG	494.	4.4	0.0	32.0		
9.	9	*	1145.0	2.0	1770.0	-92.0	*	632.	99.	AG	494.	4.1	0.0	32.0		
10.	10	*	1012.0	1716.0	1186.0	704.0	*	1027.	170.	AG	720.	3.9	0.0	32.0		
11.	11	*	1186.0	704.0	1352.0	-253.0	*	971.	170.	AG	656.	3.9	0.0	32.0		
12.	12	*	1364.0	-251.0	1198.0	706.0	*	971.	350.	AG	656.	3.9	0.0	32.0		
13.	13	*	1198.0	706.0	1024.0	1718.0	*	1027.	350.	AG	720.	3.9	0.0	32.0		
14.	14	*	1035.0	1720.0	1050.0	1626.0	*	95.	171.	AG	62.	3.9	0.0	32.0		
15.	15	*	1056.0	1724.0	1207.0	859.0	*	878.	170.	AG	528.	3.9	0.0	32.0		
16.	16	*	1207.0	859.0	1398.0	-245.0	*	1120.	170.	AG	410.	3.9	0.0	32.0		
17.	17	*	1410.0	-243.0	1229.0	871.0	*	1129.	351.	AG	410.	3.9	0.0	32.0		
18.	18	*	1229.0	871.0	1068.0	1726.0	*	870.	349.	AG	528.	3.9	0.0	32.0		
19.	19	*	1087.0	1620.0	1578.0	1666.0	*	493.								

85. AG	766.	3.9	0.0	32.0							
20. 20					*	1549.0	1677.0	1084.0	1632.0	*	467.
264. AG	77.	3.9	0.0	32.0							
21. 21					*	1606.0	1655.0	1160.0	1616.0	*	448.
265. AG	478.	3.9	0.0	32.0							
22. 22					*	1111.0	1550.0	1229.0	871.0	*	689.
170. AG	416.	3.9	0.0	32.0							
23. 23					*	1229.0	871.0	1350.0	181.0	*	701.
170. AG	379.	3.9	0.0	32.0							
24. 24					*	1350.0	181.0	1404.0	-128.0	*	314.
170. AG	410.	3.9	0.0	32.0							
25. 25					*	1350.0	181.0	1334.0	331.0	*	151.
354. AG	31.	3.9	0.0	32.0							
26. 26					*	1334.0	331.0	1405.0	509.0	*	192.
22. AG	31.	4.4	0.0	32.0							
27. 27					*	1405.0	509.0	1586.0	569.0	*	191.
72. AG	31.	4.4	0.0	32.0							
28. 28					*	1586.0	569.0	1749.0	469.0	*	191.
122. AG	31.	4.4	0.0	32.0							
29. 29					*	1749.0	469.0	1778.0	280.0	*	191.
171. AG	31.	4.4	0.0	32.0							
30. 30					*	1778.0	280.0	1652.0	136.0	*	191.
221. AG	31.	4.4	0.0	32.0							
31. 31					*	1652.0	136.0	1460.0	117.0	*	193.
264. AG	31.	3.9	0.0	32.0							
32. 32					*	1460.0	117.0	369.0	196.0	*	1094.
274. AG	31.	4.1	0.0	32.0							
33. 33					*	377.0	184.0	1414.0	111.0	*	1040.
94. AG	316.	4.1	0.0	32.0							
34. 34					*	1414.0	111.0	1914.0	25.0	*	507.
100. AG	316.	4.1	0.0	32.0							
35. 35					*	1903.0	15.0	1413.0	99.0	*	497.
280. AG	316.	4.1	0.0	32.0							
36. 36					*	1413.0	99.0	385.0	172.0	*	1031.
274. AG	316.	4.1	0.0	32.0							
37. 37					*	1893.0	4.0	1420.0	86.0	*	480.
280. AG	317.	4.1	0.0	32.0							
38. 38					*	1420.0	86.0	393.0	160.0	*	1030.
274. AG	317.	4.1	0.0	32.0							
39. 39					*	447.0	90.0	1439.0	12.0	*	995.
94. AG	493.	4.1	0.0	32.0							
40. 40					*	1439.0	12.0	1824.0	-53.0	*	390.
100. AG	493.	4.1	0.0	32.0							
41. 41					*	1811.0	-63.0	1438.0	1.0	*	378.
280. AG	493.	4.1	0.0	32.0							
42. 42					*	1438.0	1.0	458.0	78.0	*	983.
274. AG	493.	4.1	0.0	32.0							
43. 43					*	469.0	66.0	1436.0	-10.0	*	970.
94. AG	493.	4.1	0.0	32.0							
44. 44					*	1436.0	-10.0	1798.0	-73.0	*	367.
100. AG	493.	4.1	0.0	32.0							

♀

JOB: Build Old Stage 2022 RUN: Build Old Stage 2022

DATE : 7/15/14
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LINK VARIABLES

LINK DESCRIPTION					*	LINK COORDINATES (FT)				*	LENGTH
BRG	TYPE	VPH	EF	H	W	V/C	QUEUE				

```
                                  *   X1         Y1         X2         Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*----------------------------------------*------------------
----------------------------------------
      45. 45                      *   1784.0      -83.0    1438.0      -23.0 *      351.
280. AG    493.   4.1   0.0 32.0
      46. 46                      *   1438.0      -23.0     480.0       54.0 *      961.
275. AG    493.   4.1   0.0 32.0
      47. 47                      *    265.0      411.0     445.0      511.0 *      206.
61. AG    371.   3.9   0.0 32.0
      48. 48                      *    445.0      511.0     628.0      601.0 *      204.
64. AG    371.   3.9   0.0 32.0
      49. 49                      *    628.0      601.0     812.0      665.0 *      195.
71. AG    371.   3.9   0.0 32.0
      50. 50                      *    812.0      665.0    1015.0      708.0 *      208.
78. AG    371.   3.9   0.0 32.0
      51. 51                      *   1015.0      708.0    1116.0      772.0 *      120.
58. AG    371.   4.4   0.0 32.0
      52. 52                      *   1116.0      772.0    1142.0      888.0 *      119.
13. AG    371.   4.4   0.0 32.0
      53. 53                      *   1229.0      871.0    1364.0      767.0 *      170.
128. AG    136.   4.4   0.0 32.0
      54. 54                      *   1364.0      767.0    1568.0      764.0 *      204.
91. AG    136.   3.9   0.0 32.0
      55. 55                      *   1568.0      764.0    1760.0      697.0 *      203.
109. AG    136.   3.9   0.0 32.0
      56. 56                      *   1760.0      697.0    1900.0      593.0 *      174.
127. AG    136.   3.9   0.0 32.0
      57. 57                      *   1900.0      593.0    2001.0      489.0 *      145.
136. AG    136.   3.9   0.0 32.0
      58. 58                      *   2001.0      489.0    2128.0      338.0 *      197.
140. AG    136.   3.9   0.0 32.0
      59. 59                      *   2128.0      338.0    1916.0      560.0 *      307.
316. AG    136.   3.9   0.0 32.0
      60. 60                      *   1916.0      560.0    1752.0      687.0 *      207.
308. AG    136.   3.9   0.0 32.0
      61. 61                      *   1752.0      687.0    1562.0      753.0 *      201.
289. AG    136.   3.9   0.0 32.0
      62. 62                      *   1562.0      753.0    1358.0      755.0 *      204.
271. AG    136.   3.9   0.0 32.0
      63. 63                      *   1358.0      755.0    1219.0      861.0 *      175.
307. AG    136.   4.4   0.0 32.0
      64. 64                      *   1253.0      734.0    1411.0      747.0 *      159.
85. AG    180.   3.9   0.0 32.0
      65. 65                      *   1411.0      747.0    1611.0      730.0 *      201.
95. AG    180.   3.9   0.0 32.0
      66. 66                      *   1611.0      730.0    1795.0      647.0 *      202.
114. AG    180.   3.9   0.0 32.0
      67. 67                      *   1795.0      647.0    1983.0      472.0 *      257.
133. AG    180.   3.9   0.0 32.0
      68. 68                      *   1983.0      472.0    2128.0      338.0 *      197.
133. AG    180.   3.9   0.0 32.0
      69. 69                      *   1111.0     1550.0    1160.0     1616.0 *       82.
37. AG    416.   4.4   0.0 32.0
      70. Q1-SB-OStage at VS  *   1015.0     1620.6     995.3     1748.2 *      129.
351. AG     24. 100.0   0.0 12.0 0.54   6.6
      71. Q2-SB-OStage at VS  *   1026.8     1622.7    1007.1     1750.3 *      129.
351. AG     24. 100.0   0.0 12.0 0.54   6.6
      72. Q3-SB-OStage at VS  *   1038.6     1624.7    1019.0     1752.3 *      129.
351. AG     24. 100.0   0.0 12.0 0.54   6.6
      73. Q4-SB-OStage at VS L*   1050.5     1626.5    1041.5     1684.6 *       59.
351. AG     53. 100.0   0.0 12.0 0.90   3.0
```

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      74. Q5-WB VS RT          *   1104.4    1634.4    1132.5    1637.4 *      28.
84. AG     33. 100.0   0.0 12.0 0.12   1.4
      75. Q6-WB VS LT          *   1105.6    1622.4    4760.5    2009.5 *    3675.
84. AG     40. 100.0   0.0 12.0 1.72 186.7
      76. Q7-NB OS AT VS RT    *   1108.4    1567.7    1116.6    1520.6 *      48.
170. AG     10. 100.0   0.0 12.0 0.33   2.4
      77. Q8-NB OS AT VS THRU  *   1096.6    1565.6    1125.9    1398.0 *     170.
170. AG     30. 100.0   0.0 12.0 0.71   8.6
      78. Q9-NB OS AT VS THRU  *   1084.8    1563.5    1114.1    1395.9 *     170.
170. AG     30. 100.0   0.0 12.0 0.71   8.6
      79. Q10-SB OS AT NC540   *   1187.0     774.4    1165.3     898.5 *     126.
350. AG     16. 100.0   0.0 12.0 0.64   6.4
      80. Q11-SB OS AT NC540   *   1175.2     772.3    1153.6     896.4 *     126.
350. AG     16. 100.0   0.0 12.0 0.64   6.4
      81. Q12-SB OS AT NC540 R*   1163.4     770.2    1141.7     894.3 *     126.
350. AG     16. 100.0   0.0 12.0 0.64   6.4
      82. Q13-WB540 TO NB OS   *   1265.7     759.2    1338.1     765.4 *      73.
85. AG     48. 100.0   0.0 12.0 0.61   3.7
      83. Q14-WB540 TO NB OS   *   1266.8     747.3    1339.2     753.5 *      73.
85. AG     48. 100.0   0.0 12.0 0.61   3.7
      84. Q15-WB540 TO SB OS   *   1267.8     735.3    1377.8     744.8 *     110.
85. AG     48. 100.0   0.0 12.0 0.81   5.6
      85. Q16-NB OS THRU       *   1258.8     705.8    1270.8     636.9 *      70.
170. AG     16. 100.0   0.0 12.0 0.36   3.6
      86. Q17-NB OS THRU       *   1247.0     703.8    1259.0     634.9 *      70.
170. AG     16. 100.0   0.0 12.0 0.36   3.6
      87. Q18-NB OS THRU       *   1235.2     701.7    1247.2     632.8 *      70.
170. AG     16. 100.0   0.0 12.0 0.36   3.6
♀
                                PAGE  3
      JOB: Build Old Stage 2022                                  RUN: Build Old Stage
2022

      DATE :  7/15/14
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       ADDITIONAL QUEUE LINK PARAMETERS
       --------------------------------
         LINK DESCRIPTION      *    CYCLE    RED     CLEARANCE  APPROACH  SATURATION
 IDLE   SIGNAL   ARRIVAL
                               *    LENGTH   TIME    LOST TIME    VOL     FLOW RATE
EM FAC   TYPE     RATE
                               *     (SEC)   (SEC)    (SEC)      (VPH)      (VPH)
(gm/hr)

-------------------------*-------------------------------------------------------
---------------------
      70. Q1-SB-OStage at VS   *     115       48       0.0       492       1600
21.05      1        3
      71. Q2-SB-OStage at VS   *     115       48       0.0       492       1600
21.05      1        3
      72. Q3-SB-OStage at VS   *     115       48       0.0       492       1600
21.05      1        3
      73. Q4-SB-OStage at VS L*     115      108       0.0        62       1600
21.05      1        3
      74. Q5-WB VS RT          *     115       67       0.0        77       1600
21.05      1        3
      75. Q6-WB VS LT          *     115       81       0.0       766       1600
21.05      1        3
      76. Q7-NB OS AT VS RT    *     115       21       0.0       416       1600
21.05      1        3
      77. Q8-NB OS AT VS THRU  *     115       62       0.0       502       1600
21.05      1        3
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      78. Q9-NB OS AT VS THRU *     115       62       0.0       502       1600
21.05      1        3
      79. Q10-SB OS AT NC540  *     115       32       0.0       720       1600
21.05      1        3
      80. Q11-SB OS AT NC540  *     115       32       0.0       720       1600
21.05      1        3
      81. Q12-SB OS AT NC540 R*     115       32       0.0       720       1600
21.05      1        3
      82. Q13-WB540 TO NB OS  *     115       97       0.0       136       1600
21.05      1        3
      83. Q14-WB540 TO NB OS  *     115       97       0.0       136       1600
21.05      1        3
      84. Q15-WB540 TO SB OS  *     115       97       0.0       180       1600
21.05      1        3
      85. Q16-NB OS THRU      *     115       32       0.0       400       1600
21.05      1        3
      86. Q17-NB OS THRU      *     115       32       0.0       400       1600
21.05      1        3
      87. Q18-NB OS THRU      *     115       32       0.0       400       1600
21.05      1        3
```

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. OldStage-1	946.9	1760.9	6.0
2. OldStage-2	969.7	1612.7	6.0
3. OldStage-3	1023.9	1166.5	6.0
4. OldStage-4	1046.5	960.1	6.0
5. OldStage-5	947.9	792.0	6.0
6. OldStage-6	1400.7	878.2	6.0
7. OldStage-7	1305.2	888.1	6.0
8. OldStage-8	1299.1	1214.5	6.0
9. OldStage-9	1264.3	1401.7	6.0
10. OldStage-10	1267.2	1559.1	6.0
11. OldStage-11	1364.9	1728.9	6.0
12. OldStage-12	1229.4	1715.9	6.0
13. OldStage-13	1175.6	1710.3	6.0

♀

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-355.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13
0.	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0

```
   5.  *   0.0   0.0   0.3   0.3   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.0
0.0
  10.  *   0.0   0.0   0.3   0.3   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.0
0.0
  15.  *   0.0   0.0   0.3   0.3   0.0   0.0   0.0   0.0   0.0   0.2   0.0   0.0
0.0
  20.  *   0.0   0.1   0.3   0.3   0.0   0.0   0.0   0.0   0.0   0.2   0.0   0.0
0.0
  25.  *   0.0   0.1   0.3   0.2   0.0   0.0   0.0   0.0   0.0   0.2   0.0   0.0
0.0
  30.  *   0.0   0.2   0.3   0.2   0.0   0.0   0.0   0.0   0.0   0.2   0.0   0.0
0.0
  35.  *   0.0   0.2   0.2   0.1   0.0   0.0   0.0   0.0   0.0   0.2   0.0   0.0
0.0
  40.  *   0.0   0.2   0.2   0.1   0.0   0.0   0.0   0.0   0.0   0.2   0.0   0.0
0.0
  45.  *   0.0   0.2   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.2   0.0   0.0
0.0
  50.  *   0.0   0.2   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.2   0.0   0.0
0.0
  55.  *   0.0   0.3   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.2   0.0   0.0
0.0
  60.  *   0.0   0.4   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.2   0.0   0.0
0.0
  65.  *   0.0   0.4   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.2   0.0   0.0
0.0
  70.  *   0.0   0.4   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.0
0.0
  75.  *   0.0   0.4   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.0
0.0
  80.  *   0.0   0.4   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.0
0.0
  85.  *   0.0   0.4   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.1   0.1
0.1
  90.  *   0.1   0.5   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.1
0.1
  95.  *   0.1   0.5   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.1
0.1
 100.  *   0.1   0.2   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.1
0.2
 105.  *   0.1   0.3   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.2
0.2
 110.  *   0.0   0.3   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.2
0.2
 115.  *   0.0   0.3   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.2   0.2
0.2
 120.  *   0.0   0.3   0.2   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.2   0.2
0.2
 125.  *   0.0   0.3   0.2   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.2   0.2
0.2
 130.  *   0.0   0.3   0.3   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.2   0.2
0.2
 135.  *   0.2   0.3   0.3   0.2   0.0   0.0   0.0   0.0   0.0   0.0   0.2   0.2
0.2
 140.  *   0.3   0.3   0.3   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.2   0.2
0.2
 145.  *   0.3   0.3   0.3   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.2
0.2
 150.  *   0.3   0.3   0.3   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.1
0.1
 155.  *   0.3   0.3   0.2   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.1
0.1
 160.  *   0.3   0.3   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
```

```
0.0
 165.  *   0.3   0.3   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.0
 170.  *   0.2   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.0
 175.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.0
 180.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.0
 185.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.0
 190.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.0
 195.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.0
0.0
 200.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.1
0.0
 205.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.2   0.1
0.0
♀
                                PAGE  5
      JOB: Build Old Stage 2022                                  RUN: Build Old Stage
2022

 WIND   * CONCENTRATION
 ANGLE  *      (PPM)
 (DEGR)* REC1  REC2  REC3  REC4  REC5  REC6  REC7  REC8  REC9  REC10 REC11 REC12
REC13

------*-------------------------------------------------------------------------
-
 210.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.2   0.2
0.0
 215.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.2   0.2
0.0
 220.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.2   0.2
0.0
 225.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.2   0.0
0.0
 230.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.2   0.0
0.0
 235.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.2   0.0
0.0
 240.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.2   0.0
0.0
 245.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.0
 250.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.0
 255.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.0
 260.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.0
 265.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.0
 270.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.0
 275.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.0
 280.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.0
 285.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.0
```

```
 290.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.0
 295.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.0
 300.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.0
0.0
 305.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.2   0.0   0.0
0.0
 310.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.2   0.0   0.0
0.0
 315.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.2   0.0   0.0
0.0
 320.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.2   0.0   0.0
0.0
 325.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.2   0.0   0.0
0.0
 330.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.0   0.2   0.0   0.0
0.0
 335.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.0   0.1   0.0   0.0
0.0
 340.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.0
0.0
 345.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.0
0.0
 350.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.0
0.0
 355.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.0
0.0

------*-------------------------------------------------------------------------
-
 MAX   *   0.3   0.5   0.3   0.3   0.0   0.0   0.1   0.0   0.0   0.2   0.2   0.2
0.2
 DEGR. *  140    90     5     5     0     0   330     0     0    15   115   105
100

 THE HIGHEST CONCENTRATION OF    0.50 PPM OCCURRED AT RECEPTOR REC2 .
```

♀ CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated 95221

JOB: Build Old Stage 2027 RUN: Build Old Stage 2027

DATE : 7/15/14
TIME : 13:47: 5

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 108. CM
U = 1.0 M/S CLAS = 5 (E) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 PPM

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT)				*	LENGTH	BRG	TYPE	VPH	EF	H	W	V/C	QUEUE
	*	X1	Y1	X2	Y2	*	(FT)	(DEG)			(G/MI)	(FT)	(FT)		(VEH)
1. 1	*	1000.0	1714.0	1175.0	702.0	*	1027.	170.	AG	872.	3.5	0.0	32.0		
2. 2	*	1175.0	702.0	1327.0	-172.0	*	887.	170.	AG	801.	3.5	0.0	32.0		
3. 3	*	1327.0	-172.0	1289.0	-352.0	*	184.	192.	AG	615.	3.9	0.0	32.0		
4. 4	*	1289.0	-352.0	1126.0	-453.0	*	192.	238.	AG	615.	3.9	0.0	32.0		
5. 5	*	1126.0	-453.0	944.0	-395.0	*	191.	288.	AG	615.	3.9	0.0	32.0		
6. 6	*	944.0	-395.0	872.0	-218.0	*	191.	338.	AG	615.	3.9	0.0	32.0		
7. 7	*	872.0	-218.0	960.0	-48.0	*	191.	27.	AG	615.	3.9	0.0	32.0		
8. 8	*	960.0	-48.0	1145.0	2.0	*	192.	75.	AG	615.	3.9	0.0	32.0		
9. 9	*	1145.0	2.0	1770.0	-92.0	*	632.	99.	AG	615.	3.5	0.0	32.0		
10. 10	*	1012.0	1716.0	1352.0	-253.0	*	1998.	170.	AG	872.	3.5	0.0	32.0		
11. 11	*	1186.0	704.0	1352.0	-253.0	*	971.	170.	AG	801.	3.5	0.0	32.0		
12. 12	*	1364.0	-251.0	1198.0	706.0	*	971.	350.	AG	801.	3.5	0.0	32.0		
13. 13	*	1198.0	706.0	1024.0	1718.0	*	1027.	350.	AG	872.	3.5	0.0	32.0		
14. 14	*	1035.0	1720.0	1050.0	1626.0	*	95.	171.	AG	74.	3.5	0.0	32.0		
15. 15	*	1056.0	1724.0	1207.0	859.0	*	878.	170.	AG	649.	3.5	0.0	32.0		
16. 16	*	1207.0	859.0	1398.0	-245.0	*	1120.	170.	AG	490.	3.5	0.0	32.0		
17. 17	*	1410.0	-243.0	1229.0	871.0	*	1129.	351.	AG	490.	3.5	0.0	32.0		
18. 18	*	1229.0	871.0	1068.0	1726.0	*	870.	349.	AG	649.	3.5	0.0	32.0		
19. 19	*	1087.0	1620.0	1578.0	1666.0	*	493.								

85. AG	885.	3.5	0.0	32.0							
20. 20					*	1549.0	1677.0	1084.0	1632.0	*	467.
264. AG	92.	3.5	0.0	32.0							
21. 21					*	1606.0	1655.0	1160.0	1616.0	*	448.
265. AG	553.	3.5	0.0	32.0							
22. 22					*	1111.0	1550.0	1229.0	871.0	*	689.
170. AG	479.	3.5	0.0	32.0							
23. 23					*	1229.0	871.0	1350.0	181.0	*	701.
170. AG	455.	3.5	0.0	32.0							
24. 24					*	1350.0	181.0	1404.0	-128.0	*	314.
170. AG	441.	3.5	0.0	32.0							
25. 25					*	1350.0	181.0	1334.0	331.0	*	151.
354. AG	35.	3.9	0.0	32.0							
26. 26					*	1334.0	331.0	1405.0	509.0	*	192.
22. AG	35.	3.9	0.0	32.0							
27. 27					*	1405.0	509.0	1586.0	569.0	*	191.
72. AG	35.	3.9	0.0	32.0							
28. 28					*	1586.0	569.0	1749.0	469.0	*	191.
122. AG	35.	3.9	0.0	32.0							
29. 29					*	1749.0	469.0	1778.0	280.0	*	191.
171. AG	35.	3.9	0.0	32.0							
30. 30					*	1778.0	280.0	1652.0	136.0	*	191.
221. AG	35.	3.9	0.0	32.0							
31. 31					*	1652.0	136.0	1460.0	117.0	*	193.
264. AG	35.	3.9	0.0	32.0							
32. 32					*	1460.0	117.0	369.0	196.0	*	1094.
274. AG	35.	3.5	0.0	32.0							
33. 33					*	377.0	184.0	1414.0	111.0	*	1040.
94. AG	391.	3.5	0.0	32.0							
34. 34					*	1414.0	111.0	1914.0	25.0	*	507.
100. AG	391.	3.5	0.0	32.0							
35. 35					*	1903.0	15.0	1413.0	99.0	*	497.
280. AG	391.	3.5	0.0	32.0							
36. 36					*	1413.0	99.0	385.0	172.0	*	1031.
274. AG	391.	3.5	0.0	32.0							
37. 37					*	1893.0	4.0	1420.0	86.0	*	480.
280. AG	391.	3.5	0.0	32.0							
38. 38					*	1420.0	86.0	393.0	160.0	*	1030.
274. AG	391.	3.5	0.0	32.0							
39. 39					*	447.0	90.0	1439.0	12.0	*	995.
94. AG	605.	3.5	0.0	32.0							
40. 40					*	1439.0	12.0	1824.0	-53.0	*	390.
100. AG	605.	3.5	0.0	32.0							
41. 41					*	1811.0	-63.0	1438.0	1.0	*	378.
280. AG	605.	3.5	0.0	32.0							
42. 42					*	1438.0	1.0	458.0	78.0	*	983.
274. AG	605.	3.5	0.0	32.0							
43. 43					*	469.0	66.0	1436.0	-10.0	*	970.
94. AG	606.	3.5	0.0	32.0							
44. 44					*	1436.0	-10.0	1798.0	-73.0	*	367.
100. AG	606.	3.5	0.0	32.0							

♀

JOB: Build Old Stage 2027 RUN: Build Old Stage 2027

DATE : 7/15/14
TIME : 13:47: 5

LINK VARIABLES

LINK DESCRIPTION					*	LINK COORDINATES (FT)				*	LENGTH
BRG	TYPE	VPH	EF	H	W	V/C	QUEUE				

```
                                  *   X1         Y1         X2         Y2     *     (FT)
(DEG)            (G/MI)  (FT) (FT)       (VEH)

------------------------*----------------------------------------*------------------
----------------------------------------
      45. 45                      *   1784.0      -83.0    1438.0      -23.0 *      351.
280. AG    606.   3.5   0.0 32.0
      46. 46                      *   1438.0      -23.0     480.0       54.0 *      961.
275. AG    606.   3.5   0.0 32.0
      47. 47                      *    265.0      411.0     445.0      511.0 *      206.
61. AG    425.   3.5   0.0 32.0
      48. 48                      *    445.0      511.0     628.0      601.0 *      204.
64. AG    425.   3.5   0.0 32.0
      49. 49                      *    628.0      601.0     812.0      665.0 *      195.
71. AG    425.   3.5   0.0 32.0
      50. 50                      *    812.0      665.0    1015.0      708.0 *      208.
78. AG    425.   3.5   0.0 32.0
      51. 51                      *   1015.0      708.0    1116.0      772.0 *      120.
58. AG    425.   3.9   0.0 32.0
      52. 52                      *   1116.0      772.0    1142.0      888.0 *      119.
13. AG    425.   3.9   0.0 32.0
      53. 53                      *   1229.0      871.0    1364.0      767.0 *      170.
128. AG    171.   3.9   0.0 32.0
      54. 54                      *   1364.0      767.0    1568.0      764.0 *      204.
91. AG    171.   3.5   0.0 32.0
      55. 55                      *   1568.0      764.0    1760.0      697.0 *      203.
109. AG    171.   3.5   0.0 32.0
      56. 56                      *   1760.0      697.0    1900.0      593.0 *      174.
127. AG    171.   3.5   0.0 32.0
      57. 57                      *   1900.0      593.0    2001.0      489.0 *      145.
136. AG    171.   3.5   0.0 32.0
      58. 58                      *   2001.0      489.0    2128.0      338.0 *      197.
140. AG    171.   3.5   0.0 32.0
      59. 59                      *   2128.0      338.0    1916.0      560.0 *      307.
316. AG    171.   3.5   0.0 32.0
      60. 60                      *   1916.0      560.0    1752.0      687.0 *      207.
308. AG    171.   3.5   0.0 32.0
      61. 61                      *   1752.0      687.0    1562.0      753.0 *      201.
289. AG    171.   3.5   0.0 32.0
      62. 62                      *   1562.0      753.0    1358.0      755.0 *      204.
271. AG    171.   3.5   0.0 32.0
      63. 63                      *   1358.0      755.0    1219.0      861.0 *      175.
307. AG    171.   3.9   0.0 32.0
      64. 64                      *   1253.0      734.0    1411.0      747.0 *      159.
85. AG    213.   3.5   0.0 32.0
      65. 65                      *   1411.0      747.0    1611.0      730.0 *      201.
95. AG    213.   3.5   0.0 32.0
      66. 66                      *   1611.0      730.0    1795.0      647.0 *      202.
114. AG    213.   3.5   0.0 32.0
      67. 67                      *   1795.0      647.0    1983.0      472.0 *      257.
133. AG    213.   3.5   0.0 32.0
      68. 68                      *   1983.0      472.0    2128.0      338.0 *      197.
133. AG    213.   3.5   0.0 32.0
      69. 69                      *   1111.0     1550.0    1160.0     1616.0 *       82.
37. AG    479.   3.9   0.0 32.0
      70. Q1-SB-OStage at VS  *   1015.0     1620.6     990.7     1778.3 *      160.
351. AG     18. 100.0   0.0 12.0 0.67   8.1
      71. Q2-SB-OStage at VS  *   1026.8     1622.7    1002.5     1780.4 *      160.
351. AG     18. 100.0   0.0 12.0 0.67   8.1
      72. Q3-SB-OStage at VS  *   1038.6     1624.7    1014.3     1782.4 *      160.
351. AG     18. 100.0   0.0 12.0 0.67   8.1
      73. Q4-SB-OStage at VS L*   1050.5     1626.5    1029.7     1761.4 *      136.
351. AG     41. 100.0   0.0 12.0 1.07   6.9
```

```
      74. Q5-WB VS RT          *   1104.4    1634.4    1137.9    1637.9 *      34.
84. AG     25. 100.0   0.0 12.0 0.14   1.7
      75. Q6-WB VS LT          *   1105.6    1622.4    6004.9    2141.2 *    4927.
84. AG     30. 100.0   0.0 12.0 1.99 250.3
      76. Q7-NB OS AT VS RT    *   1108.4    1567.7    1117.9    1513.5 *      55.
170. AG     8. 100.0   0.0 12.0 0.37   2.8
      77. Q8-NB OS AT VS THRU  *   1096.6    1565.6    1137.0    1334.5 *     235.
170. AG    23. 100.0   0.0 12.0 0.87  11.9
      78. Q9-NB OS AT VS THRU  *   1084.8    1563.5    1125.2    1332.4 *     235.
170. AG    23. 100.0   0.0 12.0 0.87  11.9
      79. Q10-SB OS AT NC540   *   1187.0     774.4    1160.8     924.7 *     153.
350. AG    12. 100.0   0.0 12.0 0.77   7.8
      80. Q11-SB OS AT NC540   *   1175.2     772.3    1149.0     922.6 *     153.
350. AG    12. 100.0   0.0 12.0 0.77   7.8
      81. Q12-SB OS AT NC540 R*   1163.4     770.2    1137.1     920.5 *     153.
350. AG    12. 100.0   0.0 12.0 0.77   7.8
      82. Q13-WB540 TO NB OS   *   1265.7     759.2    1366.0     767.8 *     101.
85. AG     36. 100.0   0.0 12.0 0.77   5.1
      83. Q14-WB540 TO NB OS   *   1266.8     747.3    1367.2     755.9 *     101.
85. AG     36. 100.0   0.0 12.0 0.77   5.1
      84. Q15-WB540 TO SB OS   *   1267.8     735.3    1433.5     749.6 *     166.
85. AG     36. 100.0   0.0 12.0 0.96   8.4
      85. Q16-NB OS THRU       *   1258.8     705.8    1273.2     623.4 *      84.
170. AG    12. 100.0   0.0 12.0 0.42   4.2
      86. Q17-NB OS THRU       *   1247.0     703.8    1261.4     621.4 *      84.
170. AG    12. 100.0   0.0 12.0 0.42   4.2
      87. Q18-NB OS THRU       *   1235.2     701.7    1249.6     619.3 *      84.
170. AG    12. 100.0   0.0 12.0 0.42   4.2
♀
                              PAGE  3
      JOB: Build Old Stage 2027                                  RUN: Build Old Stage
2027

      DATE :  7/15/14
      TIME : 13:47: 5

       ADDITIONAL QUEUE LINK PARAMETERS
       --------------------------------
         LINK DESCRIPTION      *    CYCLE    RED     CLEARANCE  APPROACH  SATURATION
 IDLE   SIGNAL   ARRIVAL
                               *    LENGTH   TIME    LOST TIME    VOL     FLOW RATE
EM FAC   TYPE     RATE
                               *     (SEC)   (SEC)    (SEC)      (VPH)      (VPH)
(gm/hr)

-------------------------*-------------------------------------------------------
---------------------
      70. Q1-SB-OStage at VS   *     115       48       0.0       608       1600
16.11      1        3
      71. Q2-SB-OStage at VS   *     115       48       0.0       608       1600
16.11      1        3
      72. Q3-SB-OStage at VS   *     115       48       0.0       608       1600
16.11      1        3
      73. Q4-SB-OStage at VS L*     115      108       0.0        74       1600
16.11      1        3
      74. Q5-WB VS RT          *     115       67       0.0        92       1600
16.11      1        3
      75. Q6-WB VS LT          *     115       81       0.0       885       1600
16.11      1        3
      76. Q7-NB OS AT VS RT    *     115       21       0.0       479       1600
16.11      1        3
      77. Q8-NB OS AT VS THRU  *     115       62       0.0       619       1600
16.11      1        3
```

```
      78. Q9-NB OS AT VS THRU *     115       62       0.0       619       1600
16.11      1        3
      79. Q10-SB OS AT NC540  *     115       32       0.0       872       1600
16.11      1        3
      80. Q11-SB OS AT NC540  *     115       32       0.0       872       1600
16.11      1        3
      81. Q12-SB OS AT NC540 R*     115       32       0.0       872       1600
16.11      1        3
      82. Q13-WB540 TO NB OS  *     115       97       0.0       171       1600
16.11      1        3
      83. Q14-WB540 TO NB OS  *     115       97       0.0       171       1600
16.11      1        3
      84. Q15-WB540 TO SB OS  *     115       97       0.0       213       1600
16.11      1        3
      85. Q16-NB OS THRU      *     115       32       0.0       478       1600
16.11      1        3
      86. Q17-NB OS THRU      *     115       32       0.0       478       1600
16.11      1        3
      87. Q18-NB OS THRU      *     115       32       0.0       478       1600
16.11      1        3
```

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. OldStage-1	946.9	1760.9	6.0
2. OldStage-2	969.7	1612.7	6.0
3. OldStage-3	1023.9	1166.5	6.0
4. OldStage-4	1046.5	960.1	6.0
5. OldStage-5	947.9	792.0	6.0
6. OldStage-6	1400.7	878.2	6.0
7. OldStage-7	1305.2	888.1	6.0
8. OldStage-8	1299.1	1214.5	6.0
9. OldStage-9	1264.3	1401.7	6.0
10. OldStage-10	1267.2	1559.1	6.0
11. OldStage-11	1364.9	1728.9	6.0
12. OldStage-12	1229.4	1715.9	6.0
13. OldStage-13	1175.6	1710.3	6.0

♀

JOB: Build Old Stage 2027 RUN: Build Old Stage 2027

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-355.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13
0.	0.0	0.0	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0

```
   5.  *   0.0   0.0   0.3   0.3   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.0
0.0
  10.  *   0.0   0.0   0.3   0.3   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.0
0.0
  15.  *   0.0   0.0   0.3   0.3   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.0
0.0
  20.  *   0.0   0.1   0.3   0.3   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.0
0.0
  25.  *   0.0   0.1   0.3   0.3   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.0
0.0
  30.  *   0.0   0.2   0.3   0.3   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.0
0.0
  35.  *   0.0   0.3   0.3   0.2   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.0
0.0
  40.  *   0.0   0.4   0.3   0.2   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.0
0.0
  45.  *   0.0   0.4   0.2   0.1   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.0
0.0
  50.  *   0.0   0.4   0.2   0.1   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.0
0.0
  55.  *   0.0   0.4   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.2   0.0   0.0
0.0
  60.  *   0.0   0.3   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.2   0.0   0.0
0.0
  65.  *   0.0   0.3   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.2   0.0   0.0
0.0
  70.  *   0.0   0.3   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.0
0.0
  75.  *   0.0   0.5   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.0
0.0
  80.  *   0.0   0.5   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.0
0.0
  85.  *   0.0   0.5   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.1   0.1
0.1
  90.  *   0.1   0.5   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.1
0.1
  95.  *   0.1   0.5   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.1
0.1
 100.  *   0.0   0.3   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.1
0.2
 105.  *   0.0   0.3   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.2
0.2
 110.  *   0.0   0.3   0.2   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.2
0.2
 115.  *   0.1   0.3   0.2   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.2   0.2
0.2
 120.  *   0.1   0.3   0.3   0.2   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.1
0.1
 125.  *   0.1   0.3   0.3   0.2   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.1
0.1
 130.  *   0.2   0.3   0.3   0.2   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.1
0.1
 135.  *   0.3   0.3   0.3   0.2   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.1
0.1
 140.  *   0.3   0.3   0.3   0.2   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.1
0.1
 145.  *   0.3   0.3   0.3   0.2   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.1
0.1
 150.  *   0.3   0.3   0.3   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.1
 155.  *   0.3   0.3   0.3   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.0
 160.  *   0.3   0.3   0.2   0.2   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
```

```
0.1
 165.  *   0.3   0.3   0.1   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1
0.1
 170.  *   0.2   0.2   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.0
 175.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.0
 180.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.0
 185.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.1
0.2
 190.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.0   0.0   0.0   0.0
0.2
 195.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.0
 200.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.0
 205.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.1
0.0
♀
```



```
 WIND  * CONCENTRATION
 ANGLE *      (PPM)
 (DEGR)* REC1  REC2  REC3  REC4  REC5  REC6  REC7  REC8  REC9  REC10 REC11 REC12
REC13

------*-------------------------------------------------------------------------
-
 210.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.1
0.0
 215.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.1
0.0
 220.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.1
0.0
 225.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.1
0.0
 230.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.0
0.0
 235.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.0
0.0
 240.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.0
0.0
 245.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.0
 250.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.0
 255.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.0
 260.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.0
 265.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.0
 270.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.0
 275.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.0
 280.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.0
 285.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.0
```

```
 290.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.0
 295.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.0
 300.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.0
0.0
 305.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.0
0.0
 310.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.0
0.0
 315.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.0
0.0
 320.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.0   0.1   0.0   0.0
0.0
 325.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.2   0.0   0.0   0.1   0.0   0.0
0.0
 330.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.2   0.0   0.0   0.1   0.0   0.0
0.0
 335.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.0   0.1   0.0   0.0
0.0
 340.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.0   0.1   0.0   0.0
0.0
 345.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.0
0.0
 350.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.0
0.0
 355.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.0
0.0

------*-------------------------------------------------------------------------
-
 MAX   *   0.3   0.5   0.3   0.3   0.0   0.0   0.2   0.0   0.0   0.2   0.2   0.2
0.2
 DEGR. *  135    75     5     5     0     0   325     0     0    55   115   105
100

 THE HIGHEST CONCENTRATION OF    0.50 PPM OCCURRED AT RECEPTOR REC2 .
```

♀ CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated 95221

JOB: Build Old Stage 2035 RUN: Build Old Stage 2035

DATE : 7/15/14
TIME : 13:47: 5

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 108. CM
U = 1.0 M/S CLAS = 5 (E) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 PPM

LINK VARIABLES

	LINK DESCRIPTION	*	LINK COORDINATES (FT)				*	LENGTH	BRG	TYPE	VPH	EF	H	W	V/C	QUEUE
		*	X1	Y1	X2	Y2	*	(FT)	(DEG)			(G/MI)	(FT)	(FT)		(VEH)
1.	1	*	1000.0	1714.0	1175.0	702.0	*	1027.	170.	AG	1178.	3.3	0.0	32.0		
2.	2	*	1175.0	702.0	1327.0	-172.0	*	887.	170.	AG	1090.	3.3	0.0	32.0		
3.	3	*	1327.0	-172.0	1289.0	-352.0	*	184.	192.	AG	906.	3.7	0.0	32.0		
4.	4	*	1289.0	-352.0	1126.0	-453.0	*	192.	238.	AG	906.	3.7	0.0	32.0		
5.	5	*	1126.0	-453.0	944.0	-395.0	*	191.	288.	AG	906.	3.7	0.0	32.0		
6.	6	*	944.0	-395.0	872.0	-218.0	*	191.	338.	AG	906.	3.7	0.0	32.0		
7.	7	*	872.0	-218.0	960.0	-48.0	*	191.	27.	AG	906.	3.7	0.0	32.0		
8.	8	*	960.0	-48.0	1145.0	2.0	*	192.	75.	AG	906.	3.7	0.0	32.0		
9.	9	*	1145.0	2.0	1770.0	-92.0	*	632.	99.	AG	906.	3.3	0.0	32.0		
10.	10	*	1012.0	1716.0	1352.0	-253.0	*	1998.	170.	AG	1178.	3.3	0.0	32.0		
11.	11	*	1186.0	704.0	1352.0	-253.0	*	971.	170.	AG	1090.	3.3	0.0	32.0		
12.	12	*	1364.0	-251.0	1198.0	706.0	*	971.	350.	AG	1090.	3.3	0.0	32.0		
13.	13	*	1198.0	706.0	1024.0	1718.0	*	1027.	350.	AG	1178.	3.3	0.0	32.0		
14.	14	*	1035.0	1720.0	1050.0	1626.0	*	95.	171.	AG	81.	3.3	0.0	32.0		
15.	15	*	1056.0	1724.0	1207.0	859.0	*	878.	170.	AG	915.	3.3	0.0	32.0		
16.	16	*	1207.0	859.0	1398.0	-245.0	*	1120.	170.	AG	656.	3.3	0.0	32.0		
17.	17	*	1410.0	-243.0	1229.0	871.0	*	1129.	351.	AG	656.	3.3	0.0	32.0		
18.	18	*	1229.0	871.0	1068.0	1726.0	*	870.	349.	AG	915.	3.3	0.0	32.0		
19.	19	*	1087.0	1620.0	1578.0	1666.0	*	493.								

85. AG	601.	3.3	0.0	32.0							
20. 20					*	1549.0	1677.0	1084.0	1632.0	*	467.
264. AG	601.	3.3	0.0	32.0							
21. 21					*	1606.0	1655.0	1160.0	1616.0	*	448.
265. AG	648.	3.3	0.0	32.0							
22. 22					*	1111.0	1550.0	1229.0	871.0	*	689.
170. AG	567.	3.3	0.0	32.0							
23. 23					*	1229.0	871.0	1350.0	181.0	*	701.
170. AG	580.	3.3	0.0	32.0							
24. 24					*	1350.0	181.0	1404.0	-128.0	*	314.
170. AG	656.	3.3	0.0	32.0							
25. 25					*	1350.0	181.0	1334.0	331.0	*	151.
354. AG	76.	3.7	0.0	32.0							
26. 26					*	1334.0	331.0	1405.0	509.0	*	192.
22. AG	76.	3.7	0.0	32.0							
27. 27					*	1405.0	509.0	1586.0	569.0	*	191.
72. AG	76.	3.7	0.0	32.0							
28. 28					*	1586.0	569.0	1749.0	469.0	*	191.
122. AG	76.	3.7	0.0	32.0							
29. 29					*	1749.0	469.0	1778.0	280.0	*	191.
171. AG	76.	3.7	0.0	32.0							
30. 30					*	1778.0	280.0	1652.0	136.0	*	191.
221. AG	76.	3.7	0.0	32.0							
31. 31					*	1652.0	136.0	1460.0	117.0	*	193.
264. AG	76.	3.7	0.0	32.0							
32. 32					*	1460.0	117.0	369.0	196.0	*	1094.
274. AG	76.	3.3	0.0	32.0							
33. 33					*	377.0	184.0	1414.0	111.0	*	1040.
94. AG	483.	3.3	0.0	32.0							
34. 34					*	1414.0	111.0	1914.0	25.0	*	507.
100. AG	483.	3.3	0.0	32.0							
35. 35					*	1903.0	15.0	1413.0	99.0	*	497.
280. AG	484.	3.3	0.0	32.0							
36. 36					*	1413.0	99.0	385.0	172.0	*	1031.
274. AG	484.	3.3	0.0	32.0							
37. 37					*	1893.0	4.0	1420.0	86.0	*	480.
280. AG	484.	3.3	0.0	32.0							
38. 38					*	1420.0	86.0	393.0	160.0	*	1030.
274. AG	484.	3.3	0.0	32.0							
39. 39					*	447.0	90.0	1439.0	12.0	*	995.
94. AG	755.	3.3	0.0	32.0							
40. 40					*	1439.0	12.0	1824.0	-53.0	*	390.
100. AG	755.	3.3	0.0	32.0							
41. 41					*	1811.0	-63.0	1438.0	1.0	*	378.
280. AG	755.	3.3	0.0	32.0							
42. 42					*	1438.0	1.0	458.0	78.0	*	983.
274. AG	755.	3.3	0.0	32.0							
43. 43					*	469.0	66.0	1436.0	-10.0	*	970.
94. AG	755.	3.3	0.0	32.0							
44. 44					*	1436.0	-10.0	1798.0	-73.0	*	367.
100. AG	755.	3.3	0.0	32.0							

♀

JOB: Build Old Stage 2035 RUN: Build Old Stage 2035

DATE : 7/15/14
TIME : 13:47: 5

LINK VARIABLES

LINK DESCRIPTION						*	LINK COORDINATES (FT)				*	LENGTH
BRG	TYPE	VPH	EF	H	W	V/C	QUEUE					

				*	X1	Y1	X2	Y2	*	(FT)	(DEG)	(G/MI)	(FT)	(FT)	(VEH)
45.	45			*	1784.0	-83.0	1438.0	-23.0	*	351.	280.	AG	755.	3.3	0.0 32.0
46.	46			*	1438.0	-23.0	480.0	54.0	*	961.	275.	AG	755.	3.3	0.0 32.0
47.	47			*	265.0	411.0	445.0	511.0	*	206.	61.	AG	558.	3.3	0.0 32.0
48.	48			*	445.0	511.0	628.0	601.0	*	204.	64.	AG	558.	3.3	0.0 32.0
49.	49			*	628.0	601.0	812.0	665.0	*	195.	71.	AG	558.	3.3	0.0 32.0
50.	50			*	812.0	665.0	1015.0	708.0	*	208.	78.	AG	558.	3.3	0.0 32.0
51.	51			*	1015.0	708.0	1116.0	772.0	*	120.	58.	AG	558.	3.7	0.0 32.0
52.	52			*	1116.0	772.0	1142.0	888.0	*	119.	13.	AG	558.	3.7	0.0 32.0
53.	53			*	1229.0	871.0	1364.0	767.0	*	170.	128.	AG	252.	3.7	0.0 32.0
54.	54			*	1364.0	767.0	1568.0	764.0	*	204.	91.	AG	252.	3.3	0.0 32.0
55.	55			*	1568.0	764.0	1760.0	697.0	*	203.	109.	AG	252.	3.3	0.0 32.0
56.	56			*	1760.0	697.0	1900.0	593.0	*	174.	127.	AG	252.	3.3	0.0 32.0
57.	57			*	1900.0	593.0	2001.0	489.0	*	145.	136.	AG	252.	3.3	0.0 32.0
58.	58			*	2001.0	489.0	2128.0	338.0	*	197.	140.	AG	252.	3.3	0.0 32.0
59.	59			*	2128.0	338.0	1916.0	560.0	*	307.	316.	AG	251.	3.3	0.0 32.0
60.	60			*	1916.0	560.0	1752.0	687.0	*	207.	308.	AG	251.	3.3	0.0 32.0
61.	61			*	1752.0	687.0	1562.0	753.0	*	201.	289.	AG	251.	3.3	0.0 32.0
62.	62			*	1562.0	753.0	1358.0	755.0	*	204.	271.	AG	251.	3.3	0.0 32.0
63.	63			*	1358.0	755.0	1219.0	861.0	*	175.	307.	AG	251.	3.7	0.0 32.0
64.	64			*	1253.0	734.0	1411.0	747.0	*	159.	85.	AG	295.	3.3	0.0 32.0
65.	65			*	1411.0	747.0	1611.0	730.0	*	201.	95.	AG	295.	3.3	0.0 32.0
66.	66			*	1611.0	730.0	1795.0	647.0	*	202.	114.	AG	295.	3.3	0.0 32.0
67.	67			*	1795.0	647.0	1983.0	472.0	*	257.	133.	AG	295.	3.3	0.0 32.0
68.	68			*	1983.0	472.0	2128.0	338.0	*	197.	133.	AG	295.	3.3	0.0 32.0
69.	69			*	1111.0	1550.0	1160.0	1616.0	*	82.	37.	AG	567.	3.7	0.0 32.0
70.	Q1-SB-OStage at VS			*	1015.0	1620.6	976.9	1867.8	*	250.	351.	AG	15.	100.0	0.0 12.0 0.90 12.7
71.	Q2-SB-OStage at VS			*	1026.8	1622.7	988.7	1869.9	*	250.	351.	AG	15.	100.0	0.0 12.0 0.90 12.7
72.	Q3-SB-OStage at VS			*	1038.6	1624.7	1000.5	1871.9	*	250.	351.	AG	15.	100.0	0.0 12.0 0.90 12.7
73.	Q4-SB-OStage at VS L			*	1050.5	1626.5	1018.0	1837.6	*	214.	351.	AG	34.	100.0	0.0 12.0 1.17 10.9

```
      74. Q5-WB VS RT          *   1104.4    1634.4    1159.1    1640.2 *      55.
84. AG     21. 100.0   0.0 12.0 0.23   2.8
      75. Q6-WB VS LT          *   1105.6    1622.4    7761.8    2327.3 *    6693.
84. AG     26. 100.0   0.0 12.0 2.37 340.0
      76. Q7-NB OS AT VS RT    *   1108.4    1567.7    1121.2    1494.4 *      74.
170. AG     7. 100.0   0.0 12.0 0.51   3.8
      77. Q8-NB OS AT VS THRU  *   1096.6    1565.6    1315.4     313.0 *    1272.
170. AG     20. 100.0   0.0 12.0 1.12  64.6
      78. Q9-NB OS AT VS THRU  *   1084.8    1563.5    1303.6     310.9 *    1272.
170. AG     20. 100.0   0.0 12.0 1.12  64.6
      79. Q10-SB OS AT NC540   *   1187.0     774.4    1034.1    1650.6 *     889.
350. AG     10. 100.0   0.0 12.0 1.05  45.2
      80. Q11-SB OS AT NC540   *   1175.2     772.3    1022.4    1648.5 *     889.
350. AG     10. 100.0   0.0 12.0 1.05  45.2
      81. Q12-SB OS AT NC540 R*   1163.4     770.2    1010.4    1646.3 *     889.
350. AG     10. 100.0   0.0 12.0 1.05  45.2
      82. Q13-WB540 TO NB OS   *   1265.7     759.2    1764.5     802.1 *     501.
85. AG     31. 100.0   0.0 12.0 1.13  25.4
      83. Q14-WB540 TO NB OS   *   1266.8     747.3    1765.6     789.9 *     501.
85. AG     31. 100.0   0.0 12.0 1.13  25.4
      84. Q15-WB540 TO SB OS   *   1267.8     735.3    2235.7     818.6 *     971.
85. AG     31. 100.0   0.0 12.0 1.33  49.3
      85. Q16-NB OS THRU       *   1258.8     705.8    1277.8     597.0 *     110.
170. AG     10. 100.0   0.0 12.0 0.56   5.6
      86. Q17-NB OS THRU       *   1247.0     703.8    1266.0     595.0 *     110.
170. AG     10. 100.0   0.0 12.0 0.56   5.6
      87. Q18-NB OS THRU       *   1235.2     701.7    1254.2     592.9 *     110.
170. AG     10. 100.0   0.0 12.0 0.56   5.6
♀
                              PAGE  3
      JOB: Build Old Stage 2035                                  RUN: Build Old Stage
2035

      DATE :  7/15/14
      TIME : 13:47: 5

       ADDITIONAL QUEUE LINK PARAMETERS
       --------------------------------
         LINK DESCRIPTION      *    CYCLE    RED     CLEARANCE  APPROACH  SATURATION
 IDLE   SIGNAL   ARRIVAL
                               *    LENGTH   TIME    LOST TIME    VOL     FLOW RATE
EM FAC   TYPE     RATE
                               *     (SEC)   (SEC)    (SEC)      (VPH)      (VPH)
(gm/hr)

-------------------------*-------------------------------------------------------
--------------------
      70. Q1-SB-OStage at VS   *     115       48       0.0       815       1600
13.52      1        3
      71. Q2-SB-OStage at VS   *     115       48       0.0       815       1600
13.52      1        3
      72. Q3-SB-OStage at VS   *     115       48       0.0       815       1600
13.52      1        3
      73. Q4-SB-OStage at VS L*     115      108       0.0        81       1600
13.52      1        3
      74. Q5-WB VS RT          *     115       67       0.0       150       1600
13.52      1        3
      75. Q6-WB VS LT          *     115       81       0.0      1053       1600
13.52      1        3
      76. Q7-NB OS AT VS RT    *     115       21       0.0       648       1600
13.52      1        3
      77. Q8-NB OS AT VS THRU  *     115       62       0.0       796       1600
13.52      1        3
```

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      78. Q9-NB OS AT VS THRU *     115       62       0.0       796       1600
13.52      1        3
      79. Q10-SB OS AT NC540  *     115       32       0.0      1178       1600
13.52      1        3
      80. Q11-SB OS AT NC540  *     115       32       0.0      1178       1600
13.52      1        3
      81. Q12-SB OS AT NC540 R*     115       32       0.0      1178       1600
13.52      1        3
      82. Q13-WB540 TO NB OS  *     115       97       0.0       251       1600
13.52      1        3
      83. Q14-WB540 TO NB OS  *     115       97       0.0       251       1600
13.52      1        3
      84. Q15-WB540 TO SB OS  *     115       97       0.0       295       1600
13.52      1        3
      85. Q16-NB OS THRU      *     115       32       0.0       631       1600
13.52      1        3
      86. Q17-NB OS THRU      *     115       32       0.0       631       1600
13.52      1        3
      87. Q18-NB OS THRU      *     115       32       0.0       631       1600
13.52      1        3

       RECEPTOR LOCATIONS
       ------------------
                              *           COORDINATES (FT)          *
         RECEPTOR             *      X          Y          Z         *
     -------------------------*-----------------------------------*
      1. OldStage-1           *       946.9     1760.9        6.0   *
      2. OldStage-2           *       969.7     1612.7        6.0   *
      3. OldStage-3           *      1023.9     1166.5        6.0   *
      4. OldStage-4           *      1046.5      960.1        6.0   *
      5. OldStage-5           *       947.9      792.0        6.0   *
      6. OldStage-6           *      1400.7      878.2        6.0   *
      7. OldStage-7           *      1305.2      888.1        6.0   *
      8. OldStage-8           *      1299.1     1214.5        6.0   *
      9. OldStage-9           *      1264.3     1401.7        6.0   *
     10. OldStage-10          *      1267.2     1559.1        6.0   *
     11. OldStage-11          *      1364.9     1728.9        6.0   *
     12. OldStage-12          *      1229.4     1715.9        6.0   *
     13. OldStage-13          *      1175.6     1710.3        6.0   *
♀
                          PAGE  4
      JOB: Build Old Stage 2035                          RUN: Build Old Stage
2035

       MODEL RESULTS
       -------------

       REMARKS : In search of the angle corresponding to
                 the maximum concentration, only the first
                 angle, of the angles with same maximum
                 concentrations, is indicated as maximum.

 WIND ANGLE RANGE:   0.-355.

 WIND  * CONCENTRATION
 ANGLE *      (PPM)
 (DEGR)* REC1  REC2  REC3  REC4  REC5  REC6  REC7  REC8  REC9  REC10 REC11 REC12
REC13

------*-------------------------------------------------------------------------
-
   0.  *   0.0   0.0   0.3   0.3   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.0
```

5.	*	0.0	0.0	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10.	*	0.0	0.0	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15.	*	0.0	0.1	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20.	*	0.0	0.1	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25.	*	0.0	0.2	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30.	*	0.0	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
35.	*	0.0	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40.	*	0.0	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
45.	*	0.0	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
50.	*	0.0	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
55.	*	0.0	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
60.	*	0.0	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
65.	*	0.0	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0
70.	*	0.0	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
75.	*	0.0	0.4	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
80.	*	0.0	0.6	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
85.	*	0.0	0.6	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
90.	*	0.0	0.5	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
95.	*	0.0	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
100.	*	0.0	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
105.	*	0.0	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
110.	*	0.0	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
115.	*	0.0	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120.	*	0.0	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
125.	*	0.1	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130.	*	0.2	0.4	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
135.	*	0.5	0.4	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140.	*	0.5	0.5	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145.	*	0.5	0.5	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150.	*	0.5	0.5	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
155.	*	0.5	0.5	0.3	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160.	*	0.5	0.3	0.2	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

0.0
 165. * 0.3 0.3 0.2 0.4 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0
 170. * 0.3 0.3 0.1 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0
 175. * 0.2 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0
 180. * 0.0 0.0 0.0 0.0 0.0 0.0 0.3 0.0 0.0 0.0 0.0 0.0
0.2
 185. * 0.0 0.0 0.0 0.0 0.0 0.0 0.5 0.1 0.1 0.1 0.0 0.1
0.4
 190. * 0.0 0.0 0.0 0.0 0.0 0.0 0.5 0.1 0.1 0.1 0.0 0.1
0.5
 195. * 0.0 0.0 0.0 0.0 0.0 0.0 0.5 0.1 0.1 0.0 0.0 0.1
0.5
 200. * 0.0 0.0 0.0 0.0 0.0 0.0 0.1 0.0 0.0 0.0 0.0 0.0
0.5
 205. * 0.0 0.0 0.0 0.0 0.0 0.0 0.1 0.0 0.0 0.0 0.0 0.0
0.5
♀

JOB: Build Old Stage 2035 RUN: Build Old Stage
2035

 WIND * CONCENTRATION
 ANGLE * (PPM)
 (DEGR)* REC1 REC2 REC3 REC4 REC5 REC6 REC7 REC8 REC9 REC10 REC11 REC12
REC13

------*---
-
 210. * 0.0 0.0 0.0 0.0 0.0 0.0 0.1 0.0 0.0 0.0 0.0 0.0
0.3
 215. * 0.0 0.0 0.0 0.0 0.0 0.0 0.1 0.0 0.0 0.0 0.0 0.0
0.1
 220. * 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0
 225. * 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0
 230. * 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0
 235. * 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0
 240. * 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0
 245. * 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0
 250. * 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0
 255. * 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0
 260. * 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0
 265. * 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0
 270. * 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0
 275. * 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0
 280. * 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0
 285. * 0.0 0.0 0.0 0.0 0.0 0.0 0.1 0.0 0.0 0.0 0.0 0.0
0.0

```
 290.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.0   0.0   0.0   0.0
0.0
 295.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.0   0.0   0.0   0.0
0.0
 300.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.0   0.0   0.0   0.0
0.0
 305.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.3   0.0   0.0   0.0   0.0   0.0
0.0
 310.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.5   0.0   0.0   0.0   0.0   0.0
0.0
 315.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.5   0.0   0.0   0.0   0.0   0.0
0.0
 320.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.5   0.0   0.0   0.0   0.0   0.0
0.0
 325.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.5   0.0   0.0   0.0   0.0   0.0
0.0
 330.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.5   0.0   0.0   0.0   0.0   0.0
0.0
 335.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.5   0.0   0.0   0.0   0.0   0.0
0.0
 340.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.2   0.0   0.0   0.0   0.0   0.0
0.0
 345.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.0   0.0   0.0   0.0
0.0
 350.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.0
 355.  *   0.0   0.0   0.1   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.0

------*-------------------------------------------------------------------------
-
 MAX   *   0.5   0.6   0.3   0.4   0.0   0.0   0.5   0.1   0.1   0.2   0.1   0.1
0.5
 DEGR. *  135    80     0   155     0     0   185   185   185    65    85    85
190

 THE HIGHEST CONCENTRATION OF    0.60 PPM OCCURRED AT RECEPTOR REC2 .
```

♀ CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated 95221 PAGE 1

JOB: No Build Old Stage 2022 RUN: No Build Old Stage 2022

DATE : 7/15/14
TIME : 13:47: 4

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 108. CM
U = 1.0 M/S CLAS = 5 (E) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 PPM

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT)				*	LENGTH	BRG	TYPE	VPH	EF	H	W	V/C	QUEUE
	*	X1	Y1	X2	Y2	*	(FT)	(DEG)			(G/MI)	(FT)	(FT)		(VEH)
1. 1	*	1113.0	1731.0	1212.0	1425.0	*	322.	162.	AG	1614.	3.9	0.0	32.0		
2. 2	*	1212.0	1425.0	1264.0	953.0	*	475.	174.	AG	1614.	3.9	0.0	32.0		
3. 3	*	1264.0	953.0	1339.0	464.0	*	495.	171.	AG	1614.	3.9	0.0	32.0		
4. 4	*	1339.0	464.0	1458.0	-232.0	*	706.	170.	AG	1614.	3.9	0.0	32.0		
5. 5	*	1474.0	-228.0	1358.0	462.0	*	700.	350.	AG	1076.	3.9	0.0	32.0		
6. 6	*	1358.0	462.0	1273.0	987.0	*	532.	351.	AG	1076.	3.9	0.0	32.0		
7. 7	*	1273.0	987.0	1219.0	1442.0	*	458.	353.	AG	1076.	3.9	0.0	32.0		
8. 8	*	1219.0	1442.0	1124.0	1732.0	*	305.	342.	AG	1076.	3.9	0.0	32.0		

♀ PAGE 2

JOB: No Build Old Stage 2022 RUN: No Build Old Stage 2022

DATE : 7/15/14
TIME : 13:47: 4

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE	RED	CLEARANCE	APPROACH	SATURATION	IDLE	SIGNAL	ARRIVAL
	*	LENGTH	TIME	LOST TIME	VOL	FLOW RATE	EM FAC	TYPE	RATE
	*	(SEC)	(SEC)	(SEC)	(VPH)	(VPH)	(gm/hr)		

RECEPTOR LOCATIONS

RECEPTOR	X	Y	Z
1. OldStage-1	946.9	1760.9	6.0
2. OldStage-2	969.7	1612.7	6.0
3. OldStage-3	1023.9	1166.5	6.0
4. OldStage-4	1046.5	960.1	6.0
5. OldStage-5	947.9	792.0	6.0
6. OldStage-6	1400.7	878.2	6.0
7. OldStage-7	1305.2	888.1	6.0
8. OldStage-8	1299.1	1214.5	6.0
9. OldStage-9	1264.3	1401.7	6.0
10. OldStage-10	1267.2	1559.1	6.0
11. OldStage-11	1364.9	1728.9	6.0
12. OldStage-12	1229.4	1715.9	6.0
13. OldStage-13	1175.6	1710.3	6.0

♀

JOB: No Build Old Stage 2022 RUN: No Build Old Stage 2022

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-355.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13
0.	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0
5.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15.	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20.	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25.	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30.	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
35.	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40.	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
45.	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
50.	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
55.	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

60.	*	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
65.	*	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70.	*	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75.	*	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80.	*	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85.	*	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90.	*	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
95.	*	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100.	*	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
105.	*	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
110.	*	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
115.	*	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120.	*	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
125.	*	0.2	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130.	*	0.2	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
135.	*	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140.	*	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145.	*	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150.	*	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
155.	*	0.1	0.0	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
160.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
165.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0
170.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0
175.	*	0.0	0.0	0.0	0.0	0.0	0.1	0.6	0.2	0.3	0.2	0.0	0.2
180.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.7	0.2	0.3	0.2	0.0	0.2
185.	*	0.0	0.0	0.0	0.0	0.0	0.1	0.6	0.4	0.3	0.2	0.0	0.4
190.	*	0.0	0.0	0.0	0.0	0.0	0.3	0.6	0.3	0.4	0.2	0.1	0.3
195.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.6	0.2	0.4	0.2	0.1	0.2
200.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.2	0.3	0.2	0.1	0.2
205.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.3	0.3	0.2	0.0	0.2

♀

Stage 2022

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) * REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13
210.	* 0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.2	0.3	0.2	0.0	0.2	0.2
215.	* 0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.2	0.3	0.2	0.1	0.2	0.2
220.	* 0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.2	0.3	0.2	0.1	0.2	0.2
225.	* 0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.2	0.2	0.2	0.1	0.2	0.2
230.	* 0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.2	0.2	0.2	0.1	0.2	0.2
235.	* 0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.2	0.2	0.2	0.1	0.2	0.2
240.	* 0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.2	0.2	0.2	0.1	0.2	0.2
245.	* 0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.2	0.2	0.2	0.1	0.2	0.2
250.	* 0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.2	0.2	0.2	0.1	0.2	0.2
255.	* 0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.2	0.2	0.2	0.1	0.2	0.2
260.	* 0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.2	0.2	0.2	0.0	0.2	0.2
265.	* 0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.2	0.2	0.2	0.0	0.2	0.2
270.	* 0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.2	0.2	0.2	0.0	0.2	0.2
275.	* 0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.2	0.2	0.2	0.0	0.1	0.2
280.	* 0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.2	0.2	0.2	0.0	0.0	0.2
285.	* 0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.2	0.2	0.2	0.0	0.0	0.2
290.	* 0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.2	0.3	0.2	0.0	0.0	0.2
295.	* 0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.2	0.3	0.2	0.0	0.0	0.1
300.	* 0.0	0.0	0.0	0.0	0.0	0.1	0.4	0.2	0.3	0.2	0.0	0.0	0.0
305.	* 0.0	0.0	0.0	0.0	0.0	0.1	0.4	0.2	0.2	0.2	0.0	0.0	0.0
310.	* 0.0	0.0	0.0	0.0	0.0	0.1	0.4	0.2	0.4	0.2	0.0	0.0	0.0
315.	* 0.0	0.0	0.0	0.0	0.0	0.1	0.4	0.2	0.4	0.2	0.0	0.0	0.0
320.	* 0.0	0.0	0.0	0.0	0.0	0.2	0.5	0.2	0.3	0.2	0.0	0.0	0.0
325.	* 0.0	0.0	0.0	0.0	0.0	0.2	0.5	0.2	0.4	0.0	0.0	0.0	0.0
330.	* 0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.3	0.4	0.0	0.0	0.0	0.0
335.	* 0.0	0.0	0.0	0.0	0.0	0.2	0.6	0.3	0.3	0.0	0.0	0.0	0.0
340.	* 0.0	0.0	0.0	0.0	0.0	0.2	0.6	0.4	0.2	0.0	0.0	0.0	0.0

```
 345.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.5   0.3   0.2   0.0   0.0   0.0
0.0
 350.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.5   0.0   0.0   0.0   0.0   0.0
0.0
 355.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.3   0.0   0.0   0.0   0.0   0.0
0.0

------*-------------------------------------------------------------------------
-
 MAX   *   0.2   0.1   0.1   0.1   0.1   0.3   0.7   0.4   0.4   0.2   0.1   0.4
0.4
 DEGR. *  120    60    15    25    40   190   180   185   190   175   190   185
170

 THE HIGHEST CONCENTRATION OF    0.70 PPM OCCURRED AT RECEPTOR REC7 .
```

♀ CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated 95221 PAGE 1

JOB: No BUild Old Stage 2027 RUN: No BUild Old Stage 2027

DATE : 7/15/14
TIME : 13:47: 4

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 108. CM
U = 1.0 M/S CLAS = 5 (E) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 PPM

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT)				*	LENGTH	BRG	TYPE	VPH	EF	H	W	V/C	QUEUE
	*	X1	Y1	X2	Y2	*	(FT)	(DEG)			(G/MI)	(FT)	(FT)		(VEH)
1. 1	*	1113.0	1731.0	1212.0	1425.0	*	322.	162.	AG	1950.	3.5	0.0	32.0		
2. 2	*	1212.0	1425.0	1264.0	953.0	*	475.	174.	AG	1950.	3.5	0.0	32.0		
3. 3	*	1264.0	953.0	1339.0	464.0	*	495.	171.	AG	1950.	3.5	0.0	32.0		
4. 4	*	1339.0	464.0	1458.0	-232.0	*	706.	170.	AG	1950.	3.5	0.0	32.0		
5. 5	*	1474.0	-228.0	1358.0	462.0	*	700.	350.	AG	1300.	3.5	0.0	32.0		
6. 6	*	1358.0	462.0	1273.0	987.0	*	532.	351.	AG	1300.	3.5	0.0	32.0		
7. 7	*	1273.0	987.0	1219.0	1442.0	*	458.	353.	AG	1300.	3.5	0.0	32.0		
8. 8	*	1219.0	1442.0	1124.0	1732.0	*	305.	342.	AG	1300.	3.5	0.0	32.0		

♀ PAGE 2

JOB: No BUild Old Stage 2027 RUN: No BUild Old Stage 2027

DATE : 7/15/14
TIME : 13:47: 4

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE	RED	CLEARANCE	APPROACH	SATURATION	IDLE	SIGNAL	ARRIVAL
	*	LENGTH	TIME	LOST TIME	VOL	FLOW RATE	EM FAC	TYPE	RATE
	*	(SEC)	(SEC)	(SEC)	(VPH)	(VPH)	(gm/hr)		

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. OldStage-1	946.9	1760.9	6.0
2. OldStage-2	969.7	1612.7	6.0
3. OldStage-3	1023.9	1166.5	6.0
4. OldStage-4	1046.5	960.1	6.0
5. OldStage-5	947.9	792.0	6.0
6. OldStage-6	1400.7	878.2	6.0
7. OldStage-7	1305.2	888.1	6.0
8. OldStage-8	1299.1	1214.5	6.0
9. OldStage-9	1264.3	1401.7	6.0
10. OldStage-10	1267.2	1559.1	6.0
11. OldStage-11	1364.9	1728.9	6.0
12. OldStage-12	1229.4	1715.9	6.0
13. OldStage-13	1175.6	1710.3	6.0

♀

JOB: No BUild Old Stage 2027 RUN: No BUild Old Stage 2027

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-355.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13
0.	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0
5.	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
10.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15.	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20.	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25.	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30.	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
35.	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40.	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
45.	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
50.	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
55.	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

60.	*	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
65.	*	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70.	*	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75.	*	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80.	*	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85.	*	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90.	*	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
95.	*	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100.	*	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
105.	*	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
110.	*	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
115.	*	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120.	*	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
125.	*	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130.	*	0.2	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
135.	*	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140.	*	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145.	*	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150.	*	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
155.	*	0.1	0.0	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
160.	*	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
165.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0
170.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.1	0.0	0.0	0.1
175.	*	0.0	0.0	0.0	0.0	0.0	0.1	0.7	0.2	0.3	0.2	0.0	0.2
180.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.8	0.3	0.4	0.2	0.0	0.3
185.	*	0.0	0.0	0.0	0.0	0.0	0.1	0.6	0.4	0.4	0.2	0.0	0.4
190.	*	0.0	0.0	0.0	0.0	0.0	0.3	0.6	0.3	0.4	0.3	0.1	0.3
195.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.6	0.2	0.4	0.2	0.2	0.2
200.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.5	0.3	0.4	0.3	0.1	0.2
205.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.3	0.3	0.3	0.0	0.2

♀

Stage 2027

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) * REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13
210.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.3	0.3	0.2	0.0	0.2	0.3
215.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.3	0.3	0.2	0.1	0.2	0.2
220.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.2	0.3	0.2	0.1	0.2	0.2
225.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.2	0.3	0.2	0.1	0.2	0.2
230.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.2	0.3	0.2	0.1	0.2	0.2
235.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.2	0.3	0.2	0.1	0.2	0.2
240.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.2	0.3	0.2	0.1	0.2	0.2
245.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.2	0.3	0.2	0.1	0.2	0.2
250.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.2	0.2	0.2	0.1	0.2	0.2
255.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.2	0.2	0.2	0.1	0.2	0.2
260.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.2	0.2	0.2	0.1	0.2	0.2
265.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.2	0.2	0.2	0.0	0.2	0.2
270.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.2	0.2	0.2	0.0	0.2	0.2
275.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.2	0.2	0.2	0.0	0.1	0.2
280.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.2	0.2	0.2	0.0	0.0	0.2
285.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.2	0.2	0.2	0.0	0.0	0.2
290.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.2	0.3	0.2	0.0	0.0	0.2
295.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.2	0.3	0.2	0.0	0.0	0.2
300.	*	0.0	0.0	0.0	0.0	0.0	0.1	0.4	0.2	0.3	0.2	0.0	0.0	0.0
305.	*	0.0	0.0	0.0	0.0	0.0	0.1	0.4	0.2	0.3	0.2	0.0	0.0	0.0
310.	*	0.0	0.0	0.0	0.0	0.0	0.1	0.4	0.2	0.4	0.2	0.0	0.0	0.0
315.	*	0.0	0.0	0.0	0.0	0.0	0.1	0.4	0.3	0.4	0.2	0.0	0.0	0.0
320.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.5	0.3	0.3	0.2	0.0	0.0	0.0
325.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.5	0.3	0.4	0.0	0.0	0.0	0.0
330.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.3	0.4	0.0	0.0	0.0	0.0
335.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.7	0.4	0.4	0.0	0.0	0.0	0.0
340.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.6	0.4	0.2	0.0	0.0	0.0	0.0

```
 345.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.5   0.4   0.2   0.0   0.0   0.0
0.0
 350.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.5   0.1   0.0   0.0   0.0   0.0
0.0
 355.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.3   0.0   0.0   0.0   0.0   0.0
0.0

------*-------------------------------------------------------------------------
-
 MAX   *   0.2   0.1   0.1   0.1   0.1   0.3   0.8   0.4   0.4   0.3   0.2   0.4
0.4
 DEGR. *  115    60    15    25    35   190   180   185   180   190   195   185
165

 THE HIGHEST CONCENTRATION OF    0.80 PPM OCCURRED AT RECEPTOR REC7 .
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♀ CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated 95221 PAGE 1

JOB: No Build Old Stage 2035 RUN: No Build Old Stage 2035

DATE : 7/15/14
TIME : 13:47: 4

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 108. CM
U = 1.0 M/S CLAS = 5 (E) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 PPM

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT)				*	LENGTH	BRG	TYPE	VPH	EF	H	W	V/C	QUEUE
	*	X1	Y1	X2	Y2	*	(FT)	(DEG)			(G/MI)	(FT)	(FT)		(VEH)
1. 1	*	1113.0	1731.0	1212.0	1425.0	*	322.	162.	AG	2484.	3.3	0.0	32.0		
2. 2	*	1212.0	1425.0	1264.0	953.0	*	475.	174.	AG	2484.	3.3	0.0	32.0		
3. 3	*	1264.0	953.0	1339.0	464.0	*	495.	171.	AG	2484.	3.3	0.0	32.0		
4. 4	*	1339.0	464.0	1458.0	-232.0	*	706.	170.	AG	2484.	3.3	0.0	32.0		
5. 5	*	1474.0	-228.0	1358.0	462.0	*	700.	350.	AG	1656.	3.3	0.0	32.0		
6. 6	*	1358.0	462.0	1273.0	987.0	*	532.	351.	AG	1656.	3.3	0.0	32.0		
7. 7	*	1273.0	987.0	1219.0	1442.0	*	458.	353.	AG	1656.	3.3	0.0	32.0		
8. 8	*	1219.0	1442.0	1124.0	1732.0	*	305.	342.	AG	1656.	3.3	0.0	32.0		

♀

JOB: No Build Old Stage 2035 RUN: No Build Old Stage 2035

DATE : 7/15/14
TIME : 13:47: 4

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE	RED	CLEARANCE	APPROACH	SATURATION	IDLE	SIGNAL	ARRIVAL
	*	LENGTH	TIME	LOST TIME	VOL	FLOW RATE	EM FAC	TYPE	RATE
	*	(SEC)	(SEC)	(SEC)	(VPH)	(VPH)	(gm/hr)		

RECEPTOR LOCATIONS

RECEPTOR	X	Y	Z
1. OldStage-1	946.9	1760.9	6.0
2. OldStage-2	969.7	1612.7	6.0
3. OldStage-3	1023.9	1166.5	6.0
4. OldStage-4	1046.5	960.1	6.0
5. OldStage-5	947.9	792.0	6.0
6. OldStage-6	1400.7	878.2	6.0
7. OldStage-7	1305.2	888.1	6.0
8. OldStage-8	1299.1	1214.5	6.0
9. OldStage-9	1264.3	1401.7	6.0
10. OldStage-10	1267.2	1559.1	6.0
11. OldStage-11	1364.9	1728.9	6.0
12. OldStage-12	1229.4	1715.9	6.0
13. OldStage-13	1175.6	1710.3	6.0

♀

JOB: No Build Old Stage 2035 RUN: No Build Old Stage 2035

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-355.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13
0.	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0
5.	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
10.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15.	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20.	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25.	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30.	0.0	0.0	0.1	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
35.	0.0	0.0	0.0	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40.	0.0	0.0	0.1	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
45.	0.0	0.0	0.1	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
50.	0.0	0.0	0.1	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
55.	0.0	0.1	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

60.	*	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
65.	*	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70.	*	0.0	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75.	*	0.0	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80.	*	0.0	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85.	*	0.0	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90.	*	0.0	0.2	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
95.	*	0.0	0.2	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100.	*	0.0	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
105.	*	0.1	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
110.	*	0.2	0.2	0.1	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
115.	*	0.2	0.2	0.1	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120.	*	0.2	0.1	0.1	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
125.	*	0.2	0.1	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130.	*	0.2	0.1	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
135.	*	0.2	0.1	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140.	*	0.1	0.2	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145.	*	0.1	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150.	*	0.1	0.1	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
155.	*	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
160.	*	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
165.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0
170.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.2	0.3	0.0	0.0	0.2
175.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.9	0.3	0.4	0.3	0.0	0.2
180.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.8	0.4	0.6	0.3	0.0	0.3
185.	*	0.0	0.0	0.0	0.0	0.0	0.4	0.8	0.4	0.5	0.3	0.1	0.4
190.	*	0.0	0.0	0.0	0.0	0.0	0.3	0.8	0.4	0.5	0.3	0.2	0.3
195.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.6	0.3	0.5	0.3	0.2	0.2
200.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.6	0.3	0.4	0.3	0.2	0.2
205.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.6	0.3	0.4	0.4	0.1	0.2

♀

Stage 2035

WIND ANGLE (DEGR)	*	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13
210.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.5	0.3	0.4	0.2	0.1	0.2	0.3
215.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.5	0.3	0.4	0.2	0.1	0.2	0.3
220.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.5	0.3	0.3	0.2	0.1	0.2	0.3
225.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.3	0.3	0.2	0.1	0.2	0.3
230.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.3	0.3	0.2	0.1	0.2	0.3
235.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.3	0.3	0.2	0.1	0.2	0.3
240.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.3	0.3	0.2	0.1	0.2	0.3
245.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.3	0.3	0.2	0.1	0.2	0.3
250.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.3	0.3	0.2	0.1	0.2	0.3
255.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.3	0.3	0.2	0.1	0.2	0.3
260.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.3	0.3	0.2	0.1	0.2	0.3
265.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.3	0.3	0.2	0.1	0.2	0.3
270.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.3	0.3	0.2	0.0	0.2	0.3
275.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.3	0.3	0.2	0.0	0.2	0.3
280.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.3	0.3	0.2	0.0	0.0	0.2
285.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.3	0.2	0.2	0.0	0.0	0.2
290.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.3	0.3	0.2	0.0	0.0	0.2
295.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.3	0.3	0.2	0.0	0.0	0.2
300.	*	0.0	0.0	0.0	0.0	0.0	0.3	0.5	0.3	0.3	0.2	0.0	0.0	0.1
305.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.5	0.3	0.4	0.2	0.0	0.0	0.0
310.	*	0.0	0.0	0.0	0.0	0.0	0.1	0.5	0.3	0.4	0.2	0.0	0.0	0.0
315.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.5	0.3	0.4	0.2	0.0	0.0	0.0
320.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.6	0.3	0.6	0.2	0.0	0.0	0.0
325.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.6	0.3	0.5	0.0	0.0	0.0	0.0
330.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.7	0.4	0.5	0.0	0.0	0.0	0.0
335.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.7	0.4	0.4	0.0	0.0	0.0	0.0
340.	*	0.0	0.0	0.0	0.0	0.0	0.2	0.8	0.4	0.2	0.0	0.0	0.0	0.0

```
 345.  *   0.0   0.0   0.0   0.0   0.0   0.1   0.8   0.4   0.2   0.0   0.0   0.0
0.0
 350.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.7   0.1   0.0   0.0   0.0   0.0
0.0
 355.  *   0.0   0.0   0.0   0.0   0.0   0.0   0.5   0.0   0.0   0.0   0.0   0.0
0.0

------*-------------------------------------------------------------------------
-
 MAX   *   0.2   0.2   0.2   0.2   0.1   0.4   0.9   0.4   0.6   0.4   0.2   0.4
0.6
 DEGR. *  110    70   135    30    30   185   175   180   180   205   190   185
175

 THE HIGHEST CONCENTRATION OF    0.90 PPM OCCURRED AT RECEPTOR REC7 .
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