MEMO

Date: September 21, 2009

To: Steve Gordillo, HDR, Inc.

From: Carrol Fowler, KB Environmental Sciences, Inc.

Subject: Air Quality Memorandum
US 301 (SR 39) Project Development and Environment (PD&E) Study From South of CR 54 (Eiland Boulevard) to the US 98 Bypass (SR 533)

The referenced proposed improvement is located in Pasco County, Florida, an area currently designated by the US. Environmental Protection Agency (EPA) as being in attainment for all of the criteria air pollutants. Because the project is in an attainment area and the project would reduce congestion, it is not likely that the proposed improvement (widening of US 301 from south of CR 54 to north of Kossik Road from 4 to six lanes) will have an impact on local or regional air pollutant/pollutant precursor emissions or concentrations. Regardless, the project Build and No-Build alternatives were subjected to the Florida Department of Transportation's (FDOT's) air quality screening model, CO Florida 2004 (released September 7, 2004). CO Florida 2004 uses the EPA's MOBILE6 and CAL3QHC emission rate and dispersion models to produce estimates of one- and eight-hour concentrations of carbon monoxide (CO) at default air quality receptor locations. These concentrations can be directly compared to the one- and eight-hour National Ambient Air Quality Standards (NAAQS) for CO (35 and 9 parts per million (ppm), respectively).

The intersection forecast to have the highest total approach traffic volume is the CR 54 (Eiland Boulevard)/US 301 intersection. As previously stated, both the Build and No-Build alternatives were subjected to the screening model. Additionally, both the opening year (2015) and the design year (2035) were evaluated. The traffic data used in the evaluation is attached to this memorandum.

Estimates of CO were predicted at default receptor locations that the screening model assumes are located 10 feet from the edge of the near travel lane and distances 50 and 150 feet from the intersection cross street. Based on the results from the screening model, the highest predicted CO one- and eight-hour concentrations would not exceed the NAAQS for this pollutant regardless of alternative or year of analysis. Therefore, the project "passes" the screening test. The CO Florida 2004 output files are also attached to this memorandum.

Table 1
SR 674/US 301 Intersection CO Screening Results

Year	Scenario	Maximum CO Levels (ppm)		Passes Screening Test?
		NAAQS 1-hr / Project 1-hr	NAAQS 8-hour / Project 8-hr	
2015	No-Build	35 / 7.6	9 / 4.6	Yes
	Build	35 / 7.4	9 / 4.5	Yes
2035	No-Build	35 / 7.7	9 / 4.6	Yes
	Build	35 / 7.4	9 / 4.5	Yes

Notably, because the US 301 project is in an area that is designated attainment for all the NAAQS, the conformity requirements of the Clean Air Act do not apply.

Attachments

PD&E
TRAFFIC DATA FOR AIR STUDY SCREENING TEST

DATE: 25-Aug-09
PREPARED BY: M. Wey/HDR

Work Program Item No.: 408075-1
Federal Aid Numbers (s): 3112-020-P
Project Description: US 301 (SR 39) PD&E Study from South of CR 54 (Eiland Blvd) to US 98 Bypass (SR 533)

NOTE: The most congested intersection is the intersection with the highest total volume and lowest departure speeds and it could be two different intersections based on the "Build" vs. "No-Build" alternatives. The traffic volumes are to be the vph of the most congested leg approaching the intersection. The speeds are to be the approach speed for the most congested leg no closer than 152.4 m (500') from the intersection.

OPENING YEAR: 2015

"Build"		"No-Build"	
Signalized Intersection:		Signalized Intersection:	
CR 54 (Eiland Boulevard)		CR 54 (Eiland Boulevard)	
Design or Peak Hour Traffic		Design or Peak Hour Traffic	
for most congested leg:	1,526 vph	for most congested leg:	1,526 vph
Specify leg:	South leg (NB US 301)	Specify leg:	South leg (NB US 301)
Approach Speed:	35 mph	Approach Speed:	16 mph

DESIGN YEAR: 2035

"Build"		"No-Build"	
Signalized Intersection:		Signalized Intersection:	
CR 54 (Eiland Boulevard)		CR 54 (Eiland Boulevard)	
Design or Peak Hour Traffic		Design or Peak Hour Traffic	
for most congested leg:	2,038 vph	for most congested leg:	2,038 vph
Specify leg:	South leg (NB US 301)	Specify leg:	South leg (NB US 301)
Approach Speed:	35 mph	Approach Speed:	16 mph

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CO Florida 2004

Project: CR54 (Eiland Blvd) - NoBuild - 2015
Facility: US 301 from S of CR 54 to US 98 Bypass
Analyst: LCF

Environmental Data:

Temperature:	48 F
Reid Vapor Pressure:	11.5 psi
Land Use:	Suburban
Stability Class:	D
Surface Roughness:	108
Background Concentration:	1-hr = 3.3 ppm 8-hr = 2.0 ppm

Project Data:

Region:	3: Central Florida
Year:	2015
Intersection Type:	4 x 4 Intersection
Max Approach Traffic Volume:	1526 veh/hour
Speed:	16

Receptor Data (all distances are in feet):

Receptor Name	East-West Distance from Intersection	North-South Distance from Intersection	Receptor Height
Default Rec 1	10	150	6
Default Rec 2	10	50	6
Default Rec 3	50	10	6
Default Rec 4	150	10	6
Default Rec 5	50	50	6
Default Rec 6	10	-150	6
Default Rec 7	10	-50	6
Default Rec 8	50	-10	6
Default Rec 9	150	-10	6
Default Rec 10	50	-50	6

RESULTS (including background CO):

Receptor Name	Max 1-Hr Conc (ppm)	Max 8-Hr Conc (ppm)
Default Rec 1	7.1	4.3
Default Rec 2	7.5	4.5
Default Rec 3	7.5	4.5
Default Rec 4	7.6	4.6
Default Rec 5	6.6	4.0
Default Rec 6	7.6	4.6
Default Rec 7	7.5	4.5
Default Rec 8	7.5	4.5
Default Rec 9	7.1	4.3
Default Rec 10	6.6	4.0

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PROJECT PASSES - NO EXCEEDANCES OF NAAQ CO STANDARDS ARE PREDICTED
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09-21-2009

CO Florida 2004

Project: CR54 (Eiland Blvd) - Build - 2015
Facility: US 301 from S of CR 54 to US 98 Bypass
Analyst: LCF

Environmental Data:

Temperature:	48 F	
Reid Vapor Pressure:	11.5 psi	
Land Use:	Suburban	
Stability Class:	D	
Surface Roughness:	108	
Background Concentration:	1-hr = 3.3 ppm	8-hr = 2.0 ppm

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Year:	2015
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Max Approach Traffic Volume:	1526 veh/hour
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Receptor Data (all distances are in feet):

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Default Rec 1	10	150	6
Default Rec 2	10	50	6
Default Rec 3	50	10	6
Default Rec 4	150	10	6
Default Rec 5	50	50	6
Default Rec 6	10	-150	6
Default Rec 7	10	-50	6
Default Rec 8	50	-10	6
Default Rec 9	150	-10	6
Default Rec 10	50	-50	6

RESULTS (including background CO):

Receptor Name	Max 1-Hr Conc (ppm)	Max 8-Hr Conc (ppm)
Default Rec 1	6.7	4.0
Default Rec 2	7.2	4.3
Default Rec 3	7.4	4.5
Default Rec 4	7.4	4.5
Default Rec 5	6.5	3.9
Default Rec 6	7.4	4.5
Default Rec 7	7.4	4.5
Default Rec 8	7.2	4.3
Default Rec 9	6.7	4.0
Default Rec 10	6.5	3.9

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Analyst: LCF

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Reid Vapor Pressure:	11.5 psi
Land Use:	Suburban
Stability Class:	D
Surface Roughness:	108
Background Concentration:	1-hr = 3.3 ppm 8-hr = 2.0 ppm

Project Data:

Region:	3: Central Florida
Year:	2035
Intersection Type:	4 x 4 Intersection
Max Approach Traffic Volume:	2038 veh/hour
Speed:	16

Receptor Data (all distances are in feet):

Receptor Name	East-West Distance from Intersection	North-South Distance from Intersection	Receptor Height
Default Rec 1	10	150	6
Default Rec 2	10	50	6
Default Rec 3	50	10	6
Default Rec 4	150	10	6
Default Rec 5	50	50	6
Default Rec 6	10	-150	6
Default Rec 7	10	-50	6
Default Rec 8	50	-10	6
Default Rec 9	150	-10	6
Default Rec 10	50	-50	6

RESULTS (including background CO):

Receptor Name	Max 1-Hr Conc (ppm)	Max 8-Hr Conc (ppm)
Default Rec 1	7.3	4.4
Default Rec 2	7.6	4.6
Default Rec 3	7.7	4.6
Default Rec 4	7.7	4.6
Default Rec 5	6.8	4.1
Default Rec 6	7.7	4.6
Default Rec 7	7.7	4.6
Default Rec 8	7.6	4.6
Default Rec 9	7.3	4.4
Default Rec 10	6.8	4.1

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Year:	2035
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Default Rec 1	10	150	6
Default Rec 2	10	50	6
Default Rec 3	50	10	6
Default Rec 4	150	10	6
Default Rec 5	50	50	6
Default Rec 6	10	-150	6
Default Rec 7	10	-50	6
Default Rec 8	50	-10	6
Default Rec 9	150	-10	6
Default Rec 10	50	-50	6

RESULTS (including background CO):

Receptor Name	Max 1-Hr Conc (ppm)	Max 8-Hr Conc (ppm)
Default Rec 1	6.9	4.2
Default Rec 2	7.2	4.3
Default Rec 3	7.4	4.5
Default Rec 4	7.4	4.5
Default Rec 5	6.6	4.0
Default Rec 6	7.4	4.5
Default Rec 7	7.4	4.5
Default Rec 8	7.2	4.3
Default Rec 9	6.9	4.2
Default Rec 10	6.6	4.0

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