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**APPENDIX B**

**Revised Air Quality Calculations**

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Table D-10: Estimated VOC, CO, NOx, SOx, and PM<sub>10</sub> Emission Asphalt Oil Tank, Batch Mixer, and Batch Dryer - Revised 16 June 2008  
 Proposed Asphalt & Recycling Plant  
 Dutra Haystack Landing Asphalt & Recycling Facility  
 Draft Environmental Impact Report

Asphalt Tank	Emission Rate <sup>1</sup> (pounds per year)	Maximum Daily VOC Emissions (pounds)	Total Annual VOC Emissions (tons)	Maximum Daily CO Emissions (pounds)	Total Annual CO Emissions (tons)		
30,000 Asphalt Tank	9.18	0.025	0.009	0.0024	0.0009		
30,000 Asphalt Tank	9.18	0.025	0.014	0.0024	0.0013		
<b>Total</b>	<b>18</b>	<b>0.050</b>	<b>0.023</b>	<b>0.0049</b>	<b>0.0022</b>		
Batch Mixer	Hot Mix Heat Requirement (mmBTU/ton)	Natural Gas Heating Value <sup>2</sup> (mmBTU/mmcf)	Emission Rate <sup>2</sup> (pounds/mmcf)	Emission Rate (pounds/ton)	Maximum Daily Asphalt Production (tons)	Maximum Daily Emissions (pounds)	Annual Emissions (tons)
VOCs	0.26	1,020	5.5	0.0014	4,000	5.6	0.16
SOx	0.26	1,020	0.60	0.00015	4,000	0.61	0.017
NOx	0.26	1,020	<b>140</b>	0.036	4,000	143	<b>4.0</b>
CO	0.26	1,020	84	0.021	4,000	86	2.4
Batch Dryer	Natural Gas Emission Factor <sup>2</sup> (pounds per ton)	Maximum Daily Asphalt Production (ton)	Maximum Daily Emissions (pounds)	Annual Emissions (ton)			
PM <sub>10</sub>	0.027	4,000	108	3.0			
VOCs <sup>3</sup>	0.0082	4,000	27	0.76			

Notes:

Based on an annual production capacity of 225,000 tons<sup>1</sup> Tank emissions estimated using EPA software Tank 4.0.9d

CO = carbon monoxide<sup>2</sup> BAAQMD Hot Asphalt Mixing Facilities Engineering Evaluation Template

NOx = nitrogen oxides<sup>3</sup> VOC emission = VOC dryer - VOC mixer

VOCs = volatile organic compounds

PM<sub>10</sub> = particulate matter less than one micron in size

SOx = sulfide oxides

mmBTU = million British thermal units

mmcf = million cubic feet

VOCs are synonymous with reactive organic gases (ROG)

Table D-13: Total Estimated Batch Asphalt Plant Emissions - Revised 16 June 2008  
Proposed Asphalt & Recycling Plant  
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Activity	Pounds per Day Based on Maximum Production of			tons of Asphalt per Day		
	PM <sub>10</sub>	VOCs	SOx	NOx	CO	
Barge Off-Loading Emissions	1.1	NA	NA	NA	NA	NA
Cold Feed System Emissions	3.6	NA	NA	NA	NA	NA
Total Fugitive Dust / Yard Emissions	6.4	NA	NA	NA	NA	NA
Asphalt Oil Storage Tank Emissions	NA	0.050	NA	NA	NA	0.0049
Mixer Emissions	NA	5.6	0.61	143	86	NA
Dryer Emissions	108	27	NA	NA	NA	NA
Truck Loadout Emissions <sup>1</sup>	2.8	17	NA	NA	NA	NA
Silo Filling Emissions <sup>1</sup>	2.3	49	NA	NA	NA	NA
Asphalt Crusher	1.5	NA	NA	NA	NA	NA
Maximum Daily Emissions	124	98	0.61	143	86	
Activity	Tons per Year Based on Maximum Production of			tons of Asphalt per Year		
	PM <sub>10</sub>	VOCs	SOx	NOx	CO	
Barge Off-Loading Emissions	0.059	NA	NA	NA	NA	NA
Cold Feed System Emissions	0.11	NA	NA	NA	NA	NA
Total Fugitive Dust / Yard Emissions	1.0	NA	NA	NA	NA	NA
Asphalt Oil Storage Tank Emissions	NA	0.023	NA	NA	NA	0.0022
Mixer Emissions	NA	0.16	0.017	4.0	2.4	NA
Dryer Emissions	3.0	0.76	NA	NA	NA	NA
Truck Loadout Emissions <sup>1</sup>	0.079	0.47	NA	NA	NA	NA
Silo Filling Emissions <sup>1</sup>	0.066	1.4	NA	NA	NA	NA
Asphalt Crusher	0.11	NA	NA	NA	NA	NA
Total Annual Emissions	4.3	2.8	0.017	4.0	2.4	

Notes:

NA = not applicable

PM10 = particulate matter less than 10 microns in size

VOCs = volatile organic compounds

SOx = sulfur oxides

NOx = nitrogen oxides

CO = carbon monoxide

<sup>1</sup> Conservatively assumes all particulate matter from truck loading and silo filling is PM<sub>10</sub>. VOCs are synonymous with reactive organic gases (ROG)



Table D-19: Estimate in Net Increase of Criteria Air Pollutants from On-Site and Off-Site Emissions - Revised 16 June 2008  
 Dutra Haystack Landing Asphalt & Recycling Facility  
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Criteria Air Pollutants	Maximum Emissions <sup>3</sup>	PM <sub>10</sub> <sup>1</sup>	ROG <sup>2</sup>	SOx	NOx	CO
Existing Plant Estimated Criteria Air Pollutant Emissions	(pounds per day)	70	58	13	194	84
	(tons per year)	2.5	1.7	0.25	13	3.5
Proposed Plant Estimated Annual Criteria Air Pollutant Emissions	(pounds per day)	134	112	13	391	150
	(tons per year)	5.4	4.2	0.89	35	14
Net Increase in Criteria Air Pollutant Emissions	(pounds per day)	63	55	0.37	197	66
	(tons per year)	2.9	2.6	0.64	22	10

PM<sub>10</sub> = particulate matter less than 10 microns in size

VOCs = volatile organic compounds

SOx = sulfur oxides

NOx = nitrogen oxides

CO = carbon monoxide

ROG = reactive organic gases

<sup>1</sup> Conservatively assumes all particulate matter from truck loading and silo filling is PM<sub>10</sub>.

<sup>2</sup> Assumes volatile organic gases are synonymous with ROG

<sup>3</sup> Assumes one barge trip and maximum production rate for daily maximum.  
 Assumes maximum annual production for maximum annual emissions.