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May 20, 2021

Mr. Brian Renninger
Puget Sound Clean Air Agency
1904 Third Avenue, Suite 105
Seattle, WA 98101
brianr@pscleanair.org

RE: Response to Request for Additional Information for NOC Application 11861 for Cadman Kenmore Plant

Dear Mr. Renninger:

This letter responds to the Puget Sound Clean Air Agency's (PSCAA's) February 16, 2021 request for additional information related to Notice of Construction (NOC) application #11861 and the associated State Environmental Policy Act (SEPA) checklist for the aggregate dryer and associated baghouse changes at the Cadman Materials asphalt plant in Kenmore, Washington. Each of PSCAA's requests is listed below in bold italics, with the response in plain text.

1a. Hot oil tanks and heaters. The emission inventory omits the emissions from the storage tanks for asphaltic cement, associated heaters, and other facility storage tanks.

The emission inventory has been updated to include emissions from the asphalt storage tanks. These tanks have electric heaters. Updated emission calculations are provided in Attachment 1 to this letter.

1b. The emission inventory for the dryer incorrectly lists several metals (arsenic, beryllium, cadmium, chromium, lead, manganese, nickel, and selenium) as not being TAPs and does not include an analysis the ASIL/SQERs.
1c. The emission inventory for the dryer is missing antimony, barium, cobalt, copper, hexavalent chromium, phosphorus, silver, thallium, and zinc. Not all of these are TAPs but, they should be quantified.

The emission inventory has been updated to address the pollutants identified in Comment 1b as TAPs, and to add the pollutants identified in Comment 1c. The emission calculations include an updated analysis comparing the emission increases to the respective Small Quantity Emission Rates (SQERs) for each toxic air pollutant (TAP). For all pollutants except hexavalent chromium, the emission increase is below the SQER.

For hexavalent chromium, dispersion modeling has been conducted using the AERSCREEN model. AERSCREEN is a screening version of AERMOD and results in a conservative, screening assessment compared to the more rigorous AERMOD model. AERSCREEN uses hypothetical worst-case meteorological conditions, and outputs results only for the worst-case wind direction. The model results show an ambient concentration of 7.7×10^{-7} $\mu g/m^3$ (annual average) which is below the Acceptable Source Impact Level (ASIL) of 4.0×10^{-6} $\mu g/m^3$ for hexavalent chromium. The AERSCREEN model inputs and results are included in Tables 14 to 17 of Attachment 1. The AERSCREEN output file is provided in Attachment 2.

1d. Odor is an emission that should be addressed. It is difficult the quantify but, one of several approaches could be made. In this case the main odor sources taking part of this permitting action are the hot asphalt storage tanks (part of this action due to the condenser replacement) and the truck loadout emissions form the baghouse (part of this action due to the replacement of the baghouse). Because odor is subjective and dependent on the location it is perceived, odor modeling should be conducted to address the impacts of odor as an air pollutant. There are several ways this might be carried out. The Cadman Woodinville facility as part of NOC 10462 used the approach of modeling specific odorous compounds the demonstrate that potential odor impacts while not zero were infrequently expected. However, it has been eight years since that analysis and it may also be possible to identify Odor Unit measurement information for asphalt cement and model it through that means

In preparing this response to PSCAA's questions, Cadman has determined that the description in the NOC application of the original configuration of the scavenger duct was incorrect. The scavenger duct collects emissions from truck loading operation and conveys those emissions to the dryer exhaust. The NOC application had mistakenly stated that the scavenger duct previously vented emission through the dryer; however, upon further discussions with facility personnel, we now understand that the scavenger duct did not route emissions through the dryer before or after the change. Instead, the pre-project configuration involved the scavenger duct emissions being routed directly to the stack at a point downstream of the baghouse. In 2009, the scavenger duct was re-routed to connect to the dryer exhaust ductwork at a point prior to the baghouse.

Clarifying the specific changes to the scavenger duct configuration is important to the discussion of odors in the NOC application and SEPA checklist. PSCAA had noted in its request (Comment #3) that odor emissions may have previously been reduced by combustion in the dryer, and would no longer be reduced in the current configuration. Based on the facility's better understanding today of the pre-project scavenger duct configuration, that concern is no longer relevant, as the scavenger duct emission were not routed through the dryer either before or after the change.

As now understood, the specific changes covered by the NOC application and SEPA checklist have no impact on odor emissions. Because the project does not affect odor emissions, and because of the inherent subjectivity of odor quantification, an odor study would not provide information that is helpful or relevant to reviewing the project impacts in the NOC application and SEPA checklist.

2. $PM_{2.5}$ emissions are shown as 14.22 TPY. Given the proximity of the fence-lines and that this annual emission rate is greater than the emission thresholds in WAC 173-400-030 the Agency believes dispersion modeling to demonstrate compliance with the NAAQS is necessary.

The value of 14.22 tons per year (tpy) represents the total emissions from the dryer rather than the emission increase from pre-project to post-project dryer emissions. Emissions are not expected to increase from the dryer. However, using the same conservative method developed for calculating the increase in emissions of TAPs (i.e., comparing post-project maximum emissions to a two-year period of actual historical production), the change corresponds to a 12.8% increase in production. For $PM_{2.5}$ emissions, this production increase results an emission increase of only 1.6 tpy. This emission increase is sufficiently low that dispersion modeling should not be necessary to assess compliance with the National Ambient Air Quality Standards (NAAQS).

3. SEPA Checklist. The City of Kenmore upon reviewing the SEPA checklist stated, "In 2009, Cadman rerouted emissions from its truck load out directly to the baghouse. Prior to then, these emissions were routed through the dryer, where odor causing constituents may have been more effectively treated via burning than they are now that they are routed directly to

the baghouse." Provide a discussion of the configuration of the truck loadout before and after the 2009 modification. Diagrams of what existed before and after will be helpful to the City, Agency, and Public to understand the nature of this change.

As noted in the response to Comment 1d, Cadman has determined that the description in the NOC application of the prior configuration of the scavenger duct was incorrect. The scavenger duct did not vent emissions through the dryer either before or after the change. The only change was to move the scavenger duct connection to the dryer exhaust from a point in the stack (pre-project) to a point after the dryer but prior to the baghouse (post-project).

4. SEPA Checklist. Section B.2.a. The SEPA checklist also does not address odor. Please provide an updated checklist that addresses the possible ambient impacts from potential odor sources. This may rely on analysis such as described above in item 1.d and/or other qualitative assessments/discussions. This should include the changes to the truck loadout made in 2009. In particular, this analysis should address how the 2009 truck load out changes affected odor impacts form the truck loadout. The City of Kenmore upon reviewing the SEPA checklist is concerned that the 2009 change to the truck loadout may have increased odor impacts.

As noted above in the response to Comment 1d, the project has no effect on odor emissions. An updated SEPA Checklist, including a discussion of odor emissions, is included as Attachment 3 of this letter.

5. SEPA Checklist. Section B.2.a. The SEPA checklist does not address greenhouse gases. A calculation of greenhouse gases should be added to the application emission inventory.

A calculation of total greenhouse gas emissions from the dryer has been added to the SEPA checklist. Greenhouse gas emissions result from burning natural gas in the dryer. Because the project under review involved replacement of the dryer burner with a slightly smaller, and presumably more efficient burner, the project is not expected to have an increase of GHG emissions. The updated SEPA checklist is included in Attachment 3 of this letter.

6. SEPA Checklist. Section B.2.b. The 2009 installation of the 2009 pickup for the truck loadout is intended to capture emissions due to loading of the trucks. This should also affect the overall emissions from loaded truck offsite. Provide an assessment of the impact of asphalt odors from offsite truck traffic both before and after the 2009 changes to the truck loadout.

As noted above, the scavenger duct changes in 2009 merely rerouted the existing scavenger duct connection point with the dryer exhaust from a direct connection to the stack to a connection point prior to the baghouse. Emissions of asphalt odors from truck traffic were unaffected by this change.

If you have any questions or comments about the information presented in this letter, please do not hesitate to contact me at aday@trinityconsultants.com or Christy McDonough, Cadman, at christy.mcdonough@lehighhanson.com.

Sincerely,

TRINITY CONSULTANTS

Aaron Day, PE
Principal Consultant

Attachments

cc: Christy McDonough, Cadman

ATTACHMENT 1: EMISSION CALCULATIONS

Table 1. Facility-Wide Emissions Summary

Source	PM_{10} (tpy)	$PM_{2.5}$ (tpy)	SO_2 (tpy)	NO_x (tpy)	VOC (tpy)	CO (tpy)	Combined HAPs (tpy)	Maximum Individual HAP (tpy)
Stack Emissions								
Aggregate Dryer	14.89	14.22	0.46	10.01	0.82	59.24	0.76	0.27
HMA Silo Filling [1]	--	--	--	--	1.22	--	0.02	8.41E-03
Asphalt Tanks	0.24	0.24	--	--	0.04	3.78E-03	5.90E-04	2.70E-04
Total Stack Emissions	*15.14*	*14.46*	*0.46*	*10.01*	*2.08*	*59.25*	*0.78*	*0.28*
Fugitive Emissions								
Load-Out [2]	0.05	0.05	--	--	0.39	--	0.01	2.04E-03
Haul Roads	0.08	0.02	--	--	--	--	--	--
Storage Pile Drop Points	1.29	0.20	--	--	--	--	--	--
Storage Pile Wind Erosion	0.06	0.01	--	--	--	--	--	--
Total Fugitive Emissions	*1.49*	*0.28*	--	--	*0.39*	--	*0.01*	*2.04E-03*
Total	**16.62**	**14.74**	**0.46**	**10.01**	**2.47**	**59.25**	**0.79**	**0.28**
Title V Major Source Threshold	100	100	100	100	100	100	25	10
Below Title V Major Source Threshold?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

[1] Asphalt storage silos are controlled by the baghouse. Therefore, PM_{10} and $PM_{2.5}$ emissions from silo filling are not calculated separately.

[2] Load-out PM_{10} and $PM_{2.5}$ emissions are conservatively assumed equivalent to load-out total PM emissions.

Table 2. Production and Equipment Capacities

Parameter		Value
Asphalt production rate [1]	(pre-project)	177,348 tons/yr
Asphalt maximum production rate	(post-project)	200 tons/hr
Asphalt production rate	(post-project)	200,000 tons/yr
NG burner capacity		100 MMBtu/hr
Exhaust flow capacity		68,000 acfm
Exhaust temperature		250 degrees F
Exhaust oxygen percentage		14.5 %
Exhaust moisture		15 %
Baghouse exit concentration (filterable)		0.014 gr/dscf
Baghouse exit concentration (condensable)		0.013 gr/dscf
Maximum Hours of Operation		4,380 hours/year

[1] Due to changes in ownership, Cadman only has data on historical production back to 2006. Production in the earlier part of this date range is nearer to the time of the burner replacement that began the replacement activities that require this application. For this reason, the earliest two-year period of production (i.e., 2006 and 2007) is used to establish the baseline production for determining the emission increase from the replacement.

Table 3. Aggregate Dryer Emissions - Criteria Pollutants

Pollutant	Emission Factor	Units	Emissions (lb/hr)	Emissions (tpy) [1]
PM (filterable)	0.014	gr/dscf	5.2	11.3
PM (condensable)	0.013	gr/dscf	4.8	10.5
PM_{10} [2]	0.018	gr/dscf	6.8	14.9
$PM_{2.5}$ [2]	0.018	gr/dscf	6.5	14.2
SO_2 [3]	0.0046	lb/ton	0.9	0.5
NO_x [4]	32.0	ppmdv @ 7% O_2	4.6	10.0
VOC [3]	0.0082	lb/ton	1.6	0.8
CO [4]	311.0	ppmdv @ 7% O_2	27.1	59.2
CO_2e [5]	--	--	11710	25644
CO_2 [6]	116.98	lb/MMBtu	11698	25618
CH_4 [6]	0.002	lb/MMBtu	0.2	0.48
N_2O [6]	0.0002	lb/MMBtu	0.02	0.05

[1] Note that annual emission rate estimates for pollutants with emissions based on exhaust flow (i.e., particulate, NOx and CO) are conservatively high compared to pollutants with emissions based on tonnage of product. The difference results from the fact that calculations based on flow rate do not account for the reduced flow that occurs when the dryer operates below its maximum capacity, and thus overestimate emissions.

[2] Particle size distribution for dust emissions from batch mix dryer controlled by fabric filter are obtained from AP-42 Chapter 11.1, Table 11.1-2.

PM_{10} 39%
$PM_{2.5}$ 33%

[3] Emission factors obtained from AP-42 Chapter 11.1, Tables 11.1-5 and 11.1-6 for emissions from a batch mix dryer with a natural gas-fired dryer.

[4] Emission factors for NO_x and CO are based on BACT limits of 32 and 311 ppm, respectively, corrected to 7% O_2.

[5] The GHG emissions are calculated based on the Global Warming Potentials (GWP) provided in Table A-1 of 40 CFR 98.

CO_2	1
CH_4	25
N_2O	298

[6] The natural gas emission factors are obtained from 40 CFR 98 Subpart C, Tables C-1 and C-2, and converted to values in lb/MMBtu.

Table 4. Aggregate Dryer TAP Emissions

Pollutant	CAS No.	HAP?	TAP?	Emission Factor[1] (lb/ton)	Pre-Project Dryer Emissions (tpy)	Post-Project Dryer Emissions (lb/hr)	Post-Project Dryer Emissions (tpy)	Emission Increase (tpy)	Averaging Period	SQER (lb/averaging period)	Project Emissions Increase [2]	Modeling Required?
2-Methylnaphthalene	91-57-6	Yes - PAH	No	7.1E-05	6.30E-03	1.42E-02	7.10E-03	8.04E-04	--	--	--	--
Acenaphthene	83-32-9	Yes - PAH	No	9.0E-07	7.98E-05	1.80E-04	9.00E-05	1.02E-05	--	--	--	--
Acenaphthylene	208-96-8	Yes - PAH	No	5.8E-07	5.14E-05	1.16E-04	5.80E-05	6.57E-06	--	--	--	--
Acetaldehyde	75-07-0	Yes	Yes	3.2E-04	2.84E-02	0.06	0.03	3.62E-03	year	6.00E+01	7.25E+00	No
Anthracene	120-12-7	Yes - PAH	No	2.1E-07	1.86E-05	4.20E-05	2.10E-05	2.38E-06	--	--	--	--
Benzene	71-43-2	Yes	Yes	2.8E-04	2.48E-02	0.06	0.03	3.17E-03	year	2.10E+01	6.34E+00	No
Benzo(a)anthracene	56-55-3	Yes - PAH	Yes	4.6E-09	4.08E-07	9.20E-07	4.60E-07	5.21E-08	year	8.90E-01	1.04E-04	No
Benzo(a)pyrene	50-32-8	Yes - PAH	Yes	3.1E-10	2.75E-08	6.20E-08	3.10E-08	3.51E-09	year	1.60E-01	7.02E-06	No
Benzo(b)fluoranthene	205-99-2	Yes - PAH	Yes	9.4E-09	8.34E-07	1.88E-06	9.40E-07	1.06E-07	year	8.90E-01	2.13E-04	No
Benzo(g,h,i)perylene	191-24-2	Yes - PAH	No	5.0E-10	4.43E-08	1.00E-07	5.00E-08	5.66E-09	--	--	--	--
Benzo(k)fluoranthene	207-08-9	Yes - PAH	Yes	1.3E-08	1.15E-06	2.60E-06	1.30E-06	1.47E-07	year	8.90E-01	2.94E-04	No
Chrysene	218-01-9	Yes - PAH	Yes	3.8E-09	3.37E-07	7.60E-07	3.80E-07	4.30E-08	year	8.90E+00	8.61E-05	No
Dibenz(a,h)anthracene	53-70-3	Yes - PAH	Yes	9.5E-11	8.42E-09	1.90E-08	9.50E-09	1.08E-09	year	8.20E-02	2.15E-06	No
Ethyl Benzene	100-41-4	Yes	Yes	2.2E-03	1.95E-01	0.44	0.22	2.49E-02	year	6.50E+01	4.98E+01	No
Fluoranthene	206-44-0	Yes - PAH	No	1.6E-07	1.42E-05	3.20E-05	1.60E-05	1.81E-06	--	--	--	--
Fluorene	86-73-7	Yes - PAH	No	1.6E-06	1.42E-04	3.20E-04	1.60E-04	1.81E-05	--	--	--	--
Formaldehyde	50-00-0	Yes	Yes	7.4E-04	6.56E-02	0.15	0.07	8.38E-03	year	2.70E+01	1.68E+01	No
Indeno(1,2,3-cd)pyrene	193-39-5	Yes - PAH	Yes	3.0E-10	2.66E-08	6.00E-08	3.00E-08	3.40E-09	year	8.90E-01	6.80E-06	No
Naphthalene	91-20-3	Yes - PAH	Yes	3.6E-05	3.19E-03	7.20E-03	3.60E-03	4.08E-04	year	4.80E+00	8.15E-01	No
Phenanthrene	85-01-8	Yes - PAH	No	2.6E-06	2.31E-04	5.20E-04	2.60E-04	2.94E-05	--	--	--	--
Pyrene	129-00-0	Yes - PAH	No	6.2E-08	5.50E-06	1.24E-05	6.20E-06	7.02E-07	--	--	--	--
Quinone	106-51-4	Yes	No	2.7E-04	2.39E-02	0.05	0.03	3.06E-03	--	--	--	--
Toluene	108-88-3	Yes	Yes	1.0E-03	8.87E-02	0.20	0.10	1.13E-02	24-hr	3.70E+02	0	No
Xylene, mixed or all isomers	1330-20-7	Yes	Yes	2.7E-03	2.39E-01	0.54	0.27	3.06E-02	24-hr	1.60E+01	0	No
Arsenic	7440-38-2	Yes	Yes	4.6E-07	4.08E-05	9.20E-05	4.60E-05	5.21E-06	year	4.90E-02	1.04E-02	No
Barium	7440-39-3	No	No	1.5E-06	1.33E-04	3.00E-04	1.50E-04	1.70E-05	--	--	--	--
Beryllium	7440-41-7	Yes	Yes	1.5E-07	1.33E-05	3.00E-05	1.50E-05	1.70E-06	year	6.80E-02	3.40E-03	No
Cadmium	7440-43-9	Yes	Yes	6.1E-07	5.41E-05	1.22E-04	6.10E-05	6.91E-06	year	3.90E-02	1.38E-02	No
Chromium	7440-47-3	Yes	Yes	5.7E-07	5.05E-05	1.14E-04	5.70E-05	6.46E-06	24-hr	3.70E-01	0	No
Hexavalent Chromium	18540-29-9	Yes	Yes	4.8E-08	4.26E-06	9.60E-06	4.80E-06	5.44E-07	year	6.50E-04	1.09E-03	Yes
Copper	7440-50-8	No	Yes	2.8E-06	2.48E-04	5.60E-04	2.80E-04	3.17E-05	1-hr	1.90E-01	0	No
Lead	7439-92-1	Yes	Yes	8.9E-07	7.89E-05	1.78E-04	8.90E-05	1.01E-05	year	1.40E+01	2.02E-02	No
Manganese	7439-96-5	Yes	Yes	6.9E-06	6.12E-04	1.38E-03	6.90E-04	7.82E-05	24-hr	2.20E-02	0	No
Mercury	7439-97-6	Yes	Yes	4.1E-07	3.64E-05	8.20E-05	4.10E-05	4.64E-06	24-hr	2.20E-03	0	No
Nickel	7440-02-0	Yes	Yes	3.0E-06	2.66E-04	6.00E-04	3.00E-04	3.40E-05	year	6.20E-01	6.80E-02	No
Selenium	7782-49-2	Yes	Yes	4.9E-07	4.35E-05	9.80E-05	4.90E-05	5.55E-06	24-hr	1.50E+00	0	No
Zinc	7440-66-6	No	No	6.8E-06	6.03E-04	1.36E-03	6.80E-04	7.70E-05	--	--	--	--
				Total HAP:	**0.68**	**1.53**	**0.76**	**0.09**				
SO_2	7446-09-5	No	Yes	4.6E-03	4.08E-01	9.20E-01	4.60E-01	5.21E-02	1-hr	1.20E+00	0	No
NO_x	10102-44-0	No	Yes	--	1.00E+01	4.57E+00	1.00E+01	0.00E+00	1-hr	8.70E-01	0	No
CO	630-08-0	No	Yes	--	5.92E+01	2.71E+01	5.92E+01	0.00E+00	1-hr	4.30E+01	0	No

[1] Speciated emission factors for emissions from the dryer are obtained from U.S. EPA, Hot Mix Asphalt Plants, AP-42 Section 11.1, March 2004, Tables 11.1-9 and 11.1-11. Emission factors for natural gas-fired dryer with fabric filter for batch hot mix asphalt plants are used. Emissions of criteria pollutants that are also TAPs are based on the calculation shown in Table 2.

[2] For TAPs with short-term averaging periods (i.e., 1-hour and 24-hour), there is no increase in emissions from the project.

Table 5. HMA Silo Filling VOC Emissions

Emission unit	EF[1] (lb/ton)	Maximum Production (tons/hr)	Maximum Production (tons/yr)	VOC Emissions[2] (lb/hr)	VOC Emissions[2] (tpy)
HMA Silos	0.0122	200	200,000	2.44	1.22

[1] Emission factors calculated per AP-42 Table 11.1-14 for HMA load-out and silo filling operations.

E (lb/ton HMA) = $0.0504 * -V * e^{((0.0251) * (T + 460) - 20.43)}$

-0.5 = V, % loss-on-heating. Default value from footnote a to AP-42 Table 11.1-14 is used.

325 = T, °F HMA Mix Temperature. Asphalt temperature exiting the drum mixer is approximately 350 °F. It is assumed that the asphalt cools to 325°F prior to entering the silo.

[2] Per AP-42 Table 11.1-16, 100% of TOC from HMA silo filling is VOC.

Table 6. Asphalt Silos Speciated HAP and TAP Emissions

Substance	CAS No.	Speciation Profile[1]	HAP?	TAP?	Emission Rate[2] (lb/hr)	Emission Rate[2] (tpy)
Organic Volatile-Based Compounds						
Benzene	71-43-2	0.0320%	Yes	Yes	7.80E-04	3.90E-04
Bromomethane	74-83-9	0.0049%	Yes	Yes	1.19E-04	5.97E-05
2-Butanone	78-93-3	0.0390%	Yes	Yes	9.51E-04	4.75E-04
Carbon Disulfide	75-15-0	0.0160%	Yes	Yes	3.90E-04	1.95E-04
Chloroethane	75-00-3	0.0040%	Yes	Yes	9.75E-05	4.87E-05
Chloromethane	74-87-3	0.0230%	Yes	Yes	5.61E-04	2.80E-04
Ethyl Benzene	100-41-4	0.0380%	Yes	Yes	9.26E-04	4.63E-04
Formaldehyde	50-00-0	0.6900%	Yes	Yes	1.68E-02	8.41E-03
Hexane, n-	110-54-3	0.1000%	Yes	Yes	2.44E-03	1.22E-03
Isooctane	540-84-1	0.0003%	Yes	No	7.56E-06	3.78E-06
Methylene Chloride	75-09-2	0.0003%	Yes	Yes	6.58E-06	3.29E-06
Styrene	100-42-5	0.0054%	Yes	Yes	1.32E-04	6.58E-05
Toluene	108-88-3	0.0620%	Yes	Yes	1.51E-03	7.56E-04
Xylene, mixed or all isomers[3]	1330-20-7	0.2570%	Yes	Yes	6.26E-03	3.13E-03
Total HAPs		**1.272%**			**0.03**	**0.02**

[1] Speciation profile from U.S. EPA, Hot Mix Asphalt Plants, AP-42 Section 11.1, March 2004, Table 11.1-16, excluding the species that are non-VOC or non-HAP. Particulate matter emissions are controlled by the baghouse; therefore, the emissions from controlled organic PM-based HAPs are assumed to be negligible.

[2] Volatile HAP emissions are determined based on the speciation data presented in AP-42 Table 11.1-16 and the VOC emissions calculated according to AP-42 Table 11.1-14.

[3] Emission factors for m-, o-, and p-xylene are combined.

Table 7. HMA Load-Out Criteria Pollutant Emissions

Pollutant	EF [1] (lb/ton)	Maximum Production (tons/hr)	Maximum Production (tons/yr)	Emissions (lb/hr)	Emissions (tpy)
PM	0.0005	200	200,000	0.10	0.05
VOC [2]	0.0039	200	200,000	0.78	0.39
CO	0.0013	200	200,000	0.27	0.13

[1] Emission factors calculated per AP-42 Table 11.1-14 for HMA load-out operations.

-0.5 = V, % loss-on-heating. Default value from footnote a to AP-42 Table 11.1-14 is used.

325 = T, °F HMA Mix Temperature, Conservatively assumed the same as silo filling temperature

[2] Per AP-42 Table 11.1-16, 94% of TOC from HMA load-out is VOC.

Table 8. Load-Out Speciated HAP and TAP Emissions

Substance	CAS No.	EF [1] (lb/ton)	Speciation Profile [1]	HAP?	TAP?	Emission Rate [2] (lb/hr)	Emission Rate [2] (tpy)
Organic PM		0.0003					
Acenaphthene	83-32-9		0.2600%	Yes	No	1.77E-04	8.86E-05
Acenaphthylene	208-96-8		0.0280%	Yes	No	1.91E-05	9.55E-06
Anthracene	120-1207		0.0700%	Yes	No	4.77E-05	2.39E-05
Benzo(a)anthracene	56-55-3		0.0190%	Yes	Yes	1.30E-05	6.48E-06
Benzo(b)fluoranthene	205-99-2		0.0076%	Yes	Yes	5.18E-06	2.59E-06
Benzo(k)fluoranthene	207-08-9		0.0022%	Yes	Yes	1.50E-06	7.50E-07
Benzo(g,h,i)perylene	191-24-2		0.0019%	Yes	No	1.30E-06	6.48E-07
Benzo(a)pyrene	50-32-8		0.0023%	Yes	Yes	1.57E-06	7.84E-07
Benzo(e)pyrene	192-97-2		0.0078%	Yes	No	5.32E-06	2.66E-06
Chrysene	218-01-9		0.1030%	Yes	Yes	7.02E-05	3.51E-05
Dibenz(a,h)anthracene	53-70-3		0.0004%	Yes	Yes	2.52E-07	1.26E-07
Fluoranthene	206-44-0		0.0500%	Yes	No	3.41E-05	1.70E-05
Fluorene	86-73-7		0.7700%	Yes	No	5.25E-04	2.63E-04
Indeno(1,2,3-cd)pyrene	193-39-5		0.0005%	Yes	Yes	3.20E-07	1.60E-07
2-Methylnaphthalene	91-57-6		2.3800%	Yes	No	1.62E-03	8.11E-04
Naphthalene	91-20-3		1.2500%	Yes	Yes	8.52E-04	4.26E-04
Perylene	198-55-0		0.0220%	Yes	No	1.50E-05	7.50E-06
Phenanthrene	85-01-8		0.8100%	Yes	No	5.52E-04	2.76E-04
Pyrene	129-00-0		0.1500%	Yes	No	1.02E-04	5.11E-05
Phenol	108-95-2		1.1800%	Yes	Yes	8.05E-04	4.02E-04
TOC		0.0042					
Benzene	71-43-2		0.0520%	Yes	Yes	4.33E-04	2.16E-04
Bromomethane	74-83-9		0.0096%	Yes	Yes	7.99E-05	3.99E-05
2-Butanone	78-93-3		0.0490%	Yes	Yes	4.08E-04	2.04E-04
Carbon Disulfide	75-15-0		0.0130%	Yes	Yes	1.08E-04	5.41E-05
Chloroethane	75-00-3		0.0002%	Yes	Yes	1.75E-06	8.73E-07
Chloromethane	74-87-3		0.0150%	Yes	Yes	1.25E-04	6.24E-05
Cumene	92-82-8		0.1100%	Yes	No	9.15E-04	4.57E-04
Ethylbenzene	100-41-4		0.2800%	Yes	Yes	2.33E-03	1.16E-03
Formaldehyde	50-00-0		0.0880%	Yes	Yes	7.32E-04	3.66E-04
Hexane, n-	100-54-3		0.1500%	Yes	No	1.25E-03	6.24E-04
Isooctane	540-84-1		0.0018%	Yes	No	1.50E-05	7.49E-06
Styrene	100-42-5		0.0073%	Yes	Yes	6.07E-05	3.04E-05
Tetrachloroethene	127-18-4		0.0077%	Yes	Yes	6.40E-05	3.20E-05
Toluene	100-88-3		0.2100%	Yes	No	1.75E-03	8.73E-04
Trichlorofluoromethane	75-69-4		0.0013%	Yes	No	1.08E-05	5.41E-06
Xylene, mixed or all isomers [4]	1330-20-7		0.4900%	Yes	Yes	4.08E-03	2.04E-03
Total HAPs			**8.600%**			**0.02**	**0.01**

[1] Emission factors calculated per AP-42 Table 11.1-14 for HMA load-out operations, using the same assumptions as the criteria pollutants (see table above).

[2] Speciation profile is obtained from Tables 11.1-15 and 11.1-16.

[3] Emission rates are based on the maximum hourly and annual production rates.

[4] Emission factors for m-, o-, and p-xylene are combined.

Table 9. Paved Road Emissions

Paved Truck Route	PM Emission Factor, E [1] (lb/VMT)	PM_{10} Emission Factor, E [1] (lb/VMT)	$PM_{2.5}$ Emission Factor, E [1] (lb/VMT)	Maximum Vehicles Per Hour [2]	Maximum Vehicles Per Year [2]	Truck Route Round Trip Distance (ft)	Vehicle Miles Traveled per Hour (VMT/hr)	Vehicle Miles Traveled per Year (VMT/yr)	PM Emissions [3]		PM_{10} Emissions [3]		$PM_{2.5}$ Emissions [3]	
									(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)
HMA Truck Route	0.72	0.14	0.04	13.33	13,333	528	1.3	1,333	0.81	0.42	0.16	0.08	0.04	0.02

[1] Emission factor E is calculated according to AP-42 Section 13.2.1 for emissions from paved roads, equation 1:

E (lbs/VMT) = Hourly Paved Road Emission Factor, $[k * (sL)^{0.91} * (W)^{1.02}]$

0.011 = k, PM size multiplier (lb/VMT) from AP-42 Table 13.2.1-1.

0.0022 = k, PM_{10} size multiplier (lb/VMT) from AP-42 Table 13.2.1-1.

0.00054 = k, $PM_{2.5}$ size multiplier (lb/VMT) from AP-42 Table 13.2.1-1.

3 = sL, roadway surface silt loading (g/m^2) EPA Emission Assessment Report for HMA Plants (EPA 454/R-00-019)

22.5 = W, average truck weight (tons)

[2] Maximum vehicles per hour and maximum vehicles per year are based on truck capacity and maximum asphalt production values:

HMA Truck Capacity: 15 tons

Max Hourly Production: 200 tons/hr

Max Annual Production: 200,000 tons/yr

[3] Hourly and annual emissions account for natural mitigation due to precipitation according to AP-42 Section 13.2.1 equations 2 and 3:

Hourly emissions (lb/hr) = E * (1-1.2P/N) * VMT/hr

Annual emissions (tpy) = E * (1-P/4N) * VMT/yr

4 = P, minimum number of days per month with measurable precipitation for Seattle Area Station, NOAA Online Weather Data, NOWData tool, https://w2.weather.gov/climate/xmacis.php?wfo=sew

180 = P, mean number of days per year with measurable precipitation, AP-42 Figure 13.2.1-2.

744 = N, number of hours in period for hourly rainfall mitigation effect

365 = N, number of days in period for annual rainfall mitigation effect

Table 10. Aggregate Pile Material Handling

Pile	Maximum Throughput [1] (tons/hr)	Maximum Throughput [1] (tons/yr)	Total Pile Transfers [2]	PM Emissions [3] (lb/hr)	PM Emissions [3] (tpy)	PM_{10} Emissions [3] (lb/hr)	PM_{10} Emissions [3] (tpy)	$PM_{2.5}$ Emissions [3] (lb/hr)	$PM_{2.5}$ Emissions [3] (tpy)
Combined stockpiles	200	200,000	2	5.47	2.73	2.59	1.29	0.39	0.20

[1] Maximum hourly and annual throughputs are based on production rates specified in the "Dryer Emissions" tab.

[2] The calculations assume that all aggregate materials input to the plant will go through multiple material transfers before drying.

[3] Emissions calculated using emission factor determined according to AP-42 Section 13.2.4 for aggregate handling and storage piles.

$E\ (lb/VMT) = k\ (0.0032) \times (U/5)^{1.3}/(M/2)^{1.4}$

0.74 = k, PM size multiplier

0.35 = k, PM_{10} size multiplier

0.053 = k, $PM_{2.5}$ size multiplier

9.13 = U, mean wind speed (m/s) (average from 2011-2015 at Snohomish County Airport (Paine Field))

1 = M, conservatively low estimate for moisture content of pile materials (actuals between 1-10%)

Table 11. Pile Wind Erosion

Pile	Area [1] (acres)	PM Emissions [2] (lb/hr)	PM Emissions [2] (tpy)	PM_{10} Emissions [3] (lb/hr)	PM_{10} Emissions [3] (tpy)	$PM_{2.5}$ Emissions [3] (lb/hr)	$PM_{2.5}$ Emissions [3] (tpy)
Combined stockpiles	0.5	0.03	0.12	0.01	0.06	0.00	0.01

[1] Pile area is estimated using Google Earth imagery. Footprint area is used to estimate the total exposed area.

[2] PM Emissions are calculated using emission factors determined according to Equation 2-12 from the EPA document "Fugitive Dust

$e_{TSP}\ (lb/acre\text{-}day) = 1.7 * (s/1.5) * [\ (365\text{-}p) / 235\ ] * (f/15)$

1.6 = s, silt content obtained from AP-42 Table 13.2.4-1 (%) for crushed limestone as an estimate for aggregates

180 = p, number of days with > 0.01 in. precipitation per year

14.01 = f, percentage of time that the unobstructed wind speed exceeds 12 mph at the mean pile height (%)

[3] PM_{10} and $PM_{2.5}$ emissions are determined based on PM emissions using the ratios of the particle size multipliers for each particle size

Table 12. Criteria Pollutant Emissions

Pollutant		Emission Rate (tpy)		
		Tank 1	Tank 2	Total
Total PM	[4]	0.17	0.07	0.24
Organic PM	[3]	5.77E-04	2.37E-04	8.14E-04
VOC	[2]	0.03	1.14E-02	0.04
CO	[3]	2.68E-03	1.10E-03	3.78E-03
Total HAP		4.18E-04	1.72E-04	5.90E-04

[1] Throughput for each tank is estimated to be:

Tank 1	8,792,217 gal/yr or	1,034,378 lb/yr
Tank 2	3,612,041 gal/yr or	424,946 lb/yr

[2] Tank VOC emissions are estimated using AP-42 Chapter 7.1. VOC emissions for each tank is estimated to be:

Tank 1	0.03 tpy
Tank 2	1.14E-02 tpy

[3] CO and Organic PM emission estimates calculated by using the ratio of coefficients for silo filling emissions to TOC from AP-42 as described in AP-42 Chapter 11.1. Coefficients obtained from Table 11.1-14.

[4] Total PM emission estimate calculated by multipyling emission factor by total annual throughput and adding Organic PM. Emission factor obtained from AP-42 11.1, Table 11.1-14.

Table 13. Speciated HAP/TAP Emisisons

Pollutant		CAS Number	HAP?	TAP? [3]	Compound/ Organic PM	Compound/ TOC	HAP Emissions (tpy)	TAP Emissions (tpy)
Acenaphthene	[1]	83-32-9	Yes	No	0.47%	--	3.83E-06	--
Acenaphthylene	[1]	208-96-8	Yes	No	0.01%	--	1.14E-07	--
Anthracene	[1]	120-1207	Yes	No	0.13%	--	1.06E-06	--
Benzo(a)anthracene	[1]	56-55-3	Yes	Yes	0.06%	--	4.56E-07	4.56E-07
Benzo(e)pyrene	[1]	192-97-2	Yes	No	0.01%	--	7.73E-08	--
Chrysene	[1]	218-01-9	Yes	Yes	0.21%	--	1.71E-06	1.71E-06
Fluoranthene	[1]	206-44-0	Yes	No	0.15%	--	1.22E-06	--
Fluorene	[1]	86-73-7	Yes	No	1.01%	--	8.22E-06	--
2-Methylnaphthalene	[1]	91-57-6	Yes	No	5.27%	--	4.29E-05	--
Naphthalene	[1]	91-20-3	Yes	Yes	1.82%	--	1.48E-05	1.48E-05
Perylene	[1]	198-55-0	Yes	No	0.03%	--	2.44E-07	--
Phenanthrene	[1]	85-01-8	Yes	No	1.80%	--	1.47E-05	--
Pyrene	[1]	129-00-0	Yes	No	0.44%	--	3.58E-06	--
Benzene	[2]	71-43-2	Yes	Yes	--	0.03%	1.25E-05	1.25E-05
Bromomethane	[2]	74-83-9	Yes	Yes	--	0.00%	1.91E-06	1.91E-06
2-Butanone	[2]	78-93-3	Yes	Yes	--	0.04%	1.52E-05	1.52E-05
Carbon Disulfide	[2]	75-15-0	Yes	Yes	--	0.02%	6.25E-06	6.25E-06
Chloroethane	[2]	75-00-3	Yes	Yes	--	0.00%	1.56E-06	1.56E-06
Chloromethane	[2]	74-87-3	Yes	Yes	--	0.02%	8.99E-06	8.99E-06
Ethylbenzene	[2]	100-41-4	Yes	Yes	--	0.04%	1.48E-05	1.48E-05
Formaldehyde	[2]	50-00-0	Yes	Yes	--	0.69%	2.70E-04	2.70E-04
n-Hexane	[2]	110-54-3	Yes	Yes	--	0.10%	3.91E-05	3.91E-05
Isooctane	[2]	540-84-1	Yes	No	--	0.00%	1.21E-07	--
Methylene Chloride	[2]	75-09-2	Yes	Yes	--	0.00%	1.06E-07	1.06E-07
Styrene	[2]	100-42-5	Yes	Yes	--	0.01%	2.11E-06	2.11E-06
Toluene	[2]	100-88-3	Yes	No	--	0.06%	2.42E-05	--
m-/p-Xylene	[2]	1330-20-7	Yes	Yes	--	0.20%	7.82E-05	7.82E-05
o-Xylene	[2]	95-47-6	Yes	Yes	--	0.06%	2.23E-05	2.23E-05
Total HAP							**5.90E-04**	

[1] Emission factors obtained from AP-42 Table 11.1-15. Emissions calculated by multiplying the perentage presented for the compound by the total emisisons of Organic PM.

[2] Emission factors obtained from AP-42 Table 11.1-16. Emissions calculated by multiplying the perentage presented for the compound by the total emisisons of VOC.

[3] TAPs are determined using WAC 173-460-150.

Table 14. AERSCREEN Point Source Input

Emission Source	Release Height [1] (m)	Stack Diameter [2] (m)	Flow Rate (acfm)	Exit Velocity (m/s)	Stack Temperature (°K)	Distance to Property Line [2] (m)	Uncontrolled Short Term Emission Rate [3] (g/s)	1-Hour Modeled Concentration [3] ($\mu g/m^3$)	Annual Modeled Concentration [3] ($\mu g/m^3$)
Dryer Stack	5.49	1.016	68,000	39.58	394.3	5.7	1.0	496.7	49.67

[1] Stack height, diameter, flow rate and temperature based on historical PSCAA permit files and NOC applicability memo.

[2] The distance to the property line is the distance from the baghouse stack to the north fence.

[3] Uncontrolled short-term emission rate set to 1 g/s. In AERSCREEN, a Gaussian model with no chemical transformations or deposition depletion modeled, concentration impacts scale in a linear fashion with the modeled emission rate. A rate of 1 g/s is modeled, and the results are scaled using the actual emission rates.

Table 15. AERSCREEN Meteorological Data [1,2]

Location	Minimum Temperature (K)	Maximum Temperature (K)
Monroe	256	314

[1] Meteorological data from National Centers for Environmental Information, based on records from 1981 to 2010 in Monroe, which is the nearest location with available meteorological data. Minimum wind speed is based on the AERSCREEN default value of 0.5 m/s. https://w2.weather.gov/climate/xmacis.php?wfo=sew

[2] Uses AERSCREEN defaults of 0.5 m/s wind speed and 10 m anemometer height

Table 16. Additional AERSCREEN Inputs

Parameter	Input
Land Use[1]	Urban
Population[2]	3,979,845
Surface Profile	Urban
Climate Profile	Average
Building Data	BPIP File

[1] Site is located in an urban area near Seattle

[2] Population data based on US Census estimates in 2019 for the Seattle-Tacoma-Bellevue Metropolitan Statistical Area. https://censusreporter.org/profiles/31000US42660-seattle-tacoma-bellevue-wa-metro-area/

Table 17. AERSCREEN Model Output

Toxic Air Pollutant	Pollutant Increase [1] (lb/hr)	Pollutant Increase [1] (g/s)	Unit Model Concentration ($\mu g/m^3$)	Pollutant Model Concentration [2] ($\mu g/m^3$)	Averaging Period	ASIL [3] ($\mu g/m^3$)	Below ASIL?	% of ASIL
Hexavalent Chromium	1.24E-07	1.56E-08	4.967E+01	7.77E-07	year	4.00E-06	Yes	19.4%

[1] Hourly pollutant increase in lb/hr calculated by converting project emission increase in ton/yr for hexavalent chromium.

[2] Concentrations are modeled in AERSCREEN using a unit emission rate of 1 g/s and scaled based on the actual TAP emission rate.

[3] The ASIL is the acceptable source impact level listed in WAC 173 -460-150

ATTACHMENT 2: AERSCREEN RESULTS

AERSCREEN 16216 / AERMOD 19191 05/14/21
15:22:23

TITLE: CADMAN KENMORE, WA

********** STACK PARAMETERS **********

SOURCE EMISSION RATE:	1.0000 g/s	7.937 lb/hr
STACK HEIGHT:	5.49 meters	18.01 feet
STACK INNER DIAMETER:	1.016 meters	40.00 inches
PLUME EXIT TEMPERATURE:	394.3 K	250.1 Deg F
PLUME EXIT VELOCITY:	39.580 m/s	129.86 ft/s
STACK AIR FLOW RATE:	67993 ACFM	
RURAL OR URBAN:	URBAN	
POPULATION:	3979845	

INITIAL PROBE DISTANCE = 10000. meters 32808. feet

********** BUILDING DOWNWASH PARAMETERS **********

USER DEFINED BPIPPRM INPUT FILE:
C:\USERS\JNEILSEN\DESKTOP\CADMAN\BPIP_INPUT_FILE

MAXIMUM BUILDING HEIGHT:	19.8 meters	65.0 feet
MAXIMUM BUILDING LENGTH:	17.9 meters	58.8 feet
MINIMUM BUILDING WIDTH:	5.6 meters	18.3 feet

********** FLOW SECTOR ANALYSIS **********

25 meter receptor spacing: 6. meters - 5000. meters
50 meter receptor spacing: 5050. meters - 10000. meters

FLOW SECTOR	BUILD WIDTH	BUILD LENGTH	XBADJ	YBADJ	MAX 1-HR CONC	DIST (m)	TEMPORAL PERIOD

10	16.48	8.53	1.46	-10.63	246.3	25.0	WIN
20	16.33	10.85	2.06	-9.48	305.7	25.0	WIN
30	15.68	12.84	2.60	-8.03	188.3	25.0	WIN
40	14.55	14.44	3.06	-6.35	230.4	25.0	WIN
50	12.99	15.60	3.42	-4.47	244.4	25.0	WIN
60	11.03	16.29	3.68	-2.45	277.6	25.0	WIN
70	8.73	16.48	3.83	-0.36	328.2	25.0	WIN
80	11.72	17.93	2.11	-1.04	349.2	25.0	WIN
90	12.77	16.33	3.20	0.39	294.9	25.0	WIN
100*	8.53	16.48	2.39	5.73	496.4	25.0	WIN
110	6.31	4.43	4.61	-5.62	181.7	25.0	WIN
120	6.27	5.15	5.12	-4.36	185.2	25.0	WIN
130	6.05	5.72	5.47	-2.96	216.8	25.0	WIN
140	15.60	12.99	-2.03	11.22	211.5	25.0	WIN
150	16.29	11.03	-3.06	11.83	123.0	25.0	WIN
160	16.48	8.73	-4.01	12.07	82.09	25.0	WIN
170	16.17	6.17	-4.83	11.95	82.09	25.0	WIN
180	16.13	5.95	-6.77	11.46	82.09	25.0	WIN
190	16.48	8.53	-9.99	10.63	82.09	25.0	WIN
200	16.33	10.85	-12.91	9.48	82.09	25.0	WIN
210	15.68	12.84	-15.44	8.03	82.09	25.0	WIN
220	14.55	14.44	-17.50	6.35	82.09	25.0	WIN
230	12.99	15.60	-19.02	4.47	82.09	25.0	WIN
240	11.03	16.29	-19.97	2.45	82.09	25.0	WIN
250	8.73	16.48	-20.31	0.36	82.09	25.0	WIN
260	11.72	17.93	-20.03	1.04	82.09	25.0	WIN
270	12.77	16.33	-19.53	-0.39	82.09	25.0	WIN
280	8.53	16.48	-18.87	-5.73	82.09	25.0	WIN
290	6.31	4.43	-9.04	5.62	82.09	25.0	WIN
300	5.58	7.05	-32.74	3.80	82.09	25.0	WIN
310	6.15	6.64	-32.75	-1.33	82.09	25.0	WIN
320	6.34	6.15	-31.83	-6.42	82.09	25.0	WIN
330	16.29	11.03	-7.96	-11.83	135.8	5.7	WIN
340	16.48	8.73	-4.73	-12.07	82.09	25.0	WIN
350	16.17	6.17	-1.34	-11.95	82.09	25.0	WIN
360	16.13	5.95	0.82	-11.46	82.09	25.0	WIN

* = worst case flow sector

********** MAKEMET METEOROLOGY PARAMETERS **********

MIN/MAX TEMPERATURE: 256.0 / 314.0 (K)

MINIMUM WIND SPEED: 0.5 m/s

ANEMOMETER HEIGHT: 10.000 meters

SURFACE CHARACTERISTICS INPUT: AERMET SEASONAL TABLES

DOMINANT SURFACE PROFILE: Urban
DOMINANT CLIMATE TYPE: Average Moisture
DOMINANT SEASON: Winter

ALBEDO: 0.35
BOWEN RATIO: 1.50
ROUGHNESS LENGTH: 1.000 (meters)

SURFACE FRICTION VELOCITY (U*) NOT ADUSTED

METEOROLOGY CONDITIONS USED TO PREDICT OVERALL MAXIMUM IMPACT

YR	MO	DY	JDY	HR
10	05	06	6	01

H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS
-32.88	3.126	-9.000	0.020	-999.	4000.	8888.0	1.000	1.50	0.35	18.00

HT	REF TA	HT
10.0	256.0	2.0

WIND SPEED AT STACK HEIGHT (non-downwash): 11.9 m/s
STACK-TIP DOWNWASH ADJUSTED STACK HEIGHT: 5.5 meters
ESTIMATED FINAL PLUME RISE (non-downwash): 1.2 meters
ESTIMATED FINAL PLUME HEIGHT (non-downwash): 6.7 meters

METEOROLOGY CONDITIONS USED TO PREDICT AMBIENT BOUNDARY IMPACT

YR	MO	DY	JDY	HR
10	05	06	6	01

H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS
-32.88	3.126	-9.000	0.020	-999.	4000.	8888.0	1.000	1.50	0.35	18.00

HT	REF TA	HT
10.0	256.0	2.0

WIND SPEED AT STACK HEIGHT (non-downwash): 11.9 m/s
STACK-TIP DOWNWASH ADJUSTED STACK HEIGHT: 5.5 meters
ESTIMATED FINAL PLUME RISE (non-downwash): 1.2 meters
ESTIMATED FINAL PLUME HEIGHT (non-downwash): 6.7 meters

********** AERSCREEN AUTOMATED DISTANCES **********

OVERALL MAXIMUM CONCENTRATIONS BY DISTANCE

DIST (m)	MAXIMUM 1-HR CONC (ug/m3)	DIST (m)	MAXIMUM 1-HR CONC (ug/m3)
5.70	135.8	3775.00	1.100
25.00	496.4	3800.00	1.097
50.00	148.5	3825.00	1.094
75.00	103.4	3850.00	1.091
100.00	71.85	3875.00	1.088
125.00	53.84	3900.00	1.085
150.00	41.70	3925.00	1.082
175.00	32.81	3950.00	1.079
200.00	26.67	3975.00	1.076
225.00	21.36	4000.00	1.073
250.00	16.92	4025.00	1.070
275.00	14.09	4050.00	1.067
300.00	12.79	4075.00	1.064
325.00	11.64	4100.00	1.061
350.00	10.63	4125.00	1.058
375.00	9.732	4150.00	1.054
400.00	8.944	4175.00	1.051
425.00	8.247	4200.00	1.048
450.00	7.629	4225.00	1.045
475.00	7.080	4250.00	1.042
500.00	6.589	4275.00	1.039
525.00	6.149	4300.00	1.036
550.00	5.753	4325.00	1.033
575.00	5.396	4350.00	1.030
600.00	5.073	4375.00	1.027
625.00	4.779	4400.00	1.023
650.00	4.512	4425.00	1.020
675.00	4.314	4450.00	1.017
700.00	4.139	4475.00	1.014
725.00	3.973	4500.00	1.011
750.00	3.817	4525.00	1.008
775.00	3.670	4550.00	1.005
800.00	3.531	4575.00	1.002

825.00	3.399	4600.00	0.9988
850.00	3.275	4625.00	0.9957
875.00	3.157	4650.00	0.9927
900.00	3.046	4675.00	0.9896
925.00	2.941	4700.00	0.9865
950.00	2.841	4725.00	0.9835
975.00	2.746	4750.00	0.9804
1000.00	2.656	4775.00	0.9774
1025.00	2.571	4800.00	0.9744
1050.00	2.490	4825.00	0.9713
1075.00	2.413	4850.00	0.9683
1100.00	2.339	4875.00	0.9653
1125.00	2.269	4900.00	0.9623
1150.00	2.202	4925.00	0.9593
1175.00	2.139	4950.00	0.9563
1200.00	2.078	4975.00	0.9533
1225.00	2.020	5000.00	0.9503
1250.00	1.964	5050.00	0.9444
1275.00	1.925	5100.00	0.9384
1300.00	1.898	5150.00	0.9326
1325.00	1.871	5200.00	0.9267
1350.00	1.844	5250.00	0.9209
1375.00	1.818	5300.00	0.9151
1400.00	1.792	5350.00	0.9094
1425.00	1.767	5400.00	0.9037
1450.00	1.742	5450.00	0.8980
1475.00	1.717	5500.00	0.8924
1500.00	1.693	5550.00	0.8868
1525.00	1.669	5600.00	0.8813
1550.00	1.646	5650.00	0.8757
1575.00	1.622	5700.00	0.8703
1600.00	1.600	5750.00	0.8648
1625.00	1.577	5800.00	0.8595
1650.00	1.556	5850.00	0.8541
1675.00	1.534	5900.00	0.8488
1700.00	1.517	5950.00	0.8435
1725.00	1.501	6000.00	0.8383
1750.00	1.485	6050.00	0.8339
1775.00	1.470	6100.00	0.8295
1800.00	1.454	6150.00	0.8252
1825.00	1.439	6200.00	0.8209
1850.00	1.424	6250.00	0.8166
1875.00	1.409	6300.00	0.8124
1900.00	1.394	6350.00	0.8082
1925.00	1.380	6400.00	0.8039
1950.00	1.365	6450.00	0.7998
1975.00	1.351	6500.00	0.7956
2000.00	1.337	6550.00	0.7914
2025.00	1.323	6600.00	0.7873
2050.00	1.309	6650.00	0.7832

2075.00	1.296	6700.00	0.7791
2100.00	1.282	6750.00	0.7751
2125.00	1.269	6800.00	0.7710
2150.00	1.256	6850.00	0.7670
2175.00	1.243	6900.00	0.7631
2200.00	1.230	6950.00	0.7591
2225.00	1.218	7000.00	0.7552
2250.00	1.206	7050.00	0.7512
2275.00	1.193	7100.00	0.7474
2300.00	1.192	7150.00	0.7435
2325.00	1.194	7200.00	0.7397
2350.00	1.195	7250.00	0.7358
2375.00	1.196	7300.00	0.7320
2400.00	1.197	7350.00	0.7283
2425.00	1.197	7400.00	0.7245
2450.00	1.198	7450.00	0.7208
2475.00	1.198	7500.00	0.7171
2500.00	1.198	7550.00	0.7135
2525.00	1.198	7600.00	0.7098
2550.00	1.198	7650.00	0.7062
2575.00	1.198	7700.00	0.7026
2600.00	1.197	7750.00	0.6990
2625.00	1.197	7800.00	0.6955
2650.00	1.196	7850.00	0.6920
2675.00	1.196	7900.00	0.6885
2700.00	1.195	7950.00	0.6850
2725.00	1.194	8000.00	0.6815
2750.00	1.193	8050.00	0.6781
2775.00	1.192	8100.00	0.6747
2800.00	1.191	8150.00	0.6713
2825.00	1.189	8200.00	0.6680
2850.00	1.188	8250.00	0.6646
2875.00	1.187	8300.00	0.6613
2900.00	1.185	8350.00	0.6580
2925.00	1.184	8400.00	0.6548
2950.00	1.182	8450.00	0.6515
2975.00	1.180	8500.00	0.6483
3000.00	1.178	8550.00	0.6451
3025.00	1.176	8600.00	0.6420
3050.00	1.175	8650.00	0.6388
3075.00	1.173	8700.00	0.6357
3100.00	1.170	8750.00	0.6326
3125.00	1.168	8800.00	0.6295
3150.00	1.166	8850.00	0.6264
3175.00	1.164	8900.00	0.6234
3200.00	1.162	8950.00	0.6204
3225.00	1.159	9000.00	0.6174
3250.00	1.157	9050.00	0.6144
3275.00	1.155	9100.00	0.6115
3300.00	1.152	9150.00	0.6085

3325.00	1.150	9200.00	0.6056
3350.00	1.147	9250.00	0.6027
3375.00	1.145	9300.00	0.5999
3400.00	1.142	9350.00	0.5970
3425.00	1.139	9400.00	0.5942
3450.00	1.137	9450.00	0.5914
3475.00	1.134	9500.00	0.5886
3500.00	1.131	9550.00	0.5858
3525.00	1.129	9600.00	0.5831
3550.00	1.126	9650.00	0.5803
3575.00	1.123	9700.00	0.5776
3600.00	1.120	9750.00	0.5749
3625.00	1.117	9800.00	0.5723
3650.00	1.115	9850.00	0.5696
3675.00	1.112	9900.00	0.5670
3700.00	1.109	9950.00	0.5644
3725.00	1.106	10000.00	0.5618
3750.00	1.103		

********** AERSCREEN MAXIMUM IMPACT SUMMARY **********

CALCULATION PROCEDURE	MAXIMUM 1-HOUR CONC (ug/m3)	SCALED 3-HOUR CONC (ug/m3)	SCALED 8-HOUR CONC (ug/m3)	SCALED 24-HOUR CONC (ug/m3)	SCALED ANNUAL CONC (ug/m3)
FLAT TERRAIN	496.7	496.7	447.1	298.0	49.67

DISTANCE FROM SOURCE 27.00 meters directed toward 100 degrees

IMPACT AT THE AMBIENT BOUNDARY	135.8	135.8	122.2	81.46	13.58

DISTANCE FROM SOURCE 5.70 meters directed toward 330 degrees

ATTACHMENT 3: UPDATED SEPA CHECKLIST

pscleanair.org
Puget Sound Clean Air Agency

Puget Sound Clean Air Agency
1904 Third Avenue, Suite 105 | Seattle, WA 98101-3317
Phone 206-343-8800 | 206-343-7522 Fax

ENVIRONMENTAL CHECKLIST

Because of the State Environmental Policy Act, the action for which you are filing a Notice of Construction and Application for Approval to this Agency requires the completion of an environmental checklist.

BUT: If you can answer "yes" to either of the following statements with respect to the action being proposed, the attached checklist need not be completed:

1. I have obtained a State, City, or County Permit and filled out an environmental checklist.

   ☐ **Yes** ☒ **No**

   If yes, complete the following:

   State, City or County Department: _____

   Date the checklist was completed: _____

   Attach a copy of the checklist

2. An environmental checklist or assessment has previously been filled out for another agency.

   ☐ **Yes** ☒ **No**

   If yes, complete the following:

   Agency: _____

   Date the checklist was completed: _____

   Attach a copy of the checklist

If your answers are NO to both of the above statements, you must complete the attached environmental checklist.

Prepared by:

Signature John Ross

Name John Ross

Position Area Manager, Asphalt

Agency/Organization Cadman Materials

Date Submitted 5/18/21

ENVIRONMENTAL CHECKLIST

Date: 5/18/21

Proponent: Puget Sound Clean Air Agency

Project, Brief Title: Cadman Dryer Component Replacements

Purpose of Checklist:

Governmental agencies use this checklist to help determine whether the environmental impacts of your proposal are significant. This information is also helpful to determine if available avoidance, minimization or compensatory mitigation measures will address the probable significant impacts or if an environmental impact statement will be prepared to further analyze the proposal.

Instructions for Applicants:

This environmental checklist asks you to describe some basic information about your proposal. Please answer each question accurately and carefully, to the best of your knowledge. You may need to consult with an agency specialist or private consultant for some questions. You may use "not applicable" or "does not apply" only when you can explain why it does not apply and not when the answer is unknown. You may also attach or incorporate by reference additional studies reports. Complete and accurate answers to these questions often avoid delays with the SEPA process as well as later in the decision-making process.

The checklist questions apply to all parts of your proposal, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. The agency to which you submit this checklist may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impact.

Instructions for Lead Agencies:

Please adjust the format of this template as needed. Additional information may be necessary to evaluate the existing environment, all interrelated aspects of the proposal and an analysis of adverse impacts. The checklist is considered the first but not necessarily the only source of information needed to make an adequate threshold determination. Once a threshold determination is made, the lead agency is responsible for the completeness and accuracy of the checklist and other supporting documents.

Use of Checklist for Nonproject Proposals:

For nonproject proposals (such as ordinances, regulations, plans and programs), complete the applicable parts of Sections A, B, and C plus section D: Supplemental Sheet for Nonproject Actions.

Please completely answer all questions that apply and note that the words "project," "applicant," and "property or site" should be read as "proposal," "proponent," and "affected geographic area," respectively. The lead agency may exclude (for non-projects) questions in Section B: Environmental Elements that do not contribute meaningfully to the analysis of the proposal.

ENVIRONMENTAL CHECKLIST

A. BACKGROUND

1. Name of proposed project, if applicable: Cadman Dryer Component Replacements			
2. Name of Applicant Cadman Materials			
3. Applicant Address 7554 185th Avenue NE, Suite 100	City Redmond	State WA	Zip 98052
Applicant Phone 425-961-7325	Applicant Email christy.mcdonough@lehighhanson.com		
Contact Person Christy McDonough	Title Land Manager		
Company/Firm Lehigh Hanson (Cadman)			
4. Date Checklist Prepared 5/18/21	**5.** Agency Requesting Checklist PSCAA		
6. Proposed timing or schedule (including phasing, if applicable). Work is complete.			
7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? ☐ Yes ☒ No. If yes, explain.			
8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal. Emissions calculations have been developed.			
9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? ☐ Yes ☒ No. If yes, explain.			
10. List any government approvals or permits that will be needed for your proposal, if known. PSCAA NOC			

ENVIRONMENTAL CHECKLIST

11. Give brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page.

Retroactive NOC application for dryer baghouse alterations and asphalt tank condensers installation in 2011 and replacement in 2017, and for aggregate dryer burner replacement in 2003 and shell replacement in 2018.

12. Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist.

6431 NE 175th Street, Kenmore, WA 98155
Parcel #1126049020
King County Legal Description: LOT B KENMORE BLA #BLA2003-011 REC #20040318900001 SD BLA BEING POR GL 1 & 2 & 5 STR 11-26-4 TGW 2ND CL SH LDS LY SLY OF NE 175TH ST

ENVIRONMENTAL CHECKLIST

B. ENVIRONMENTAL ELEMENTS

1. EARTH

a. General description of the site:

☒ flat ☐ rolling ☐ hilly ☐ steep slopes ☐ mountains

☐ other _____

b. What is the steepest slope on the site (approximate percent slope)?

Site is flat.

c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them, and note any agricultural land of long-term commercial significance and whether the proposal results in removing any of these soils.

Site is paved.

d. Are there surface indications or history of unstable soils in the immediate vicinity? ☐ Yes ☒ No. If yes, describe.

e. Describe the purpose, type, total area, and approximate quantities and total affected area of any filling, excavation, and grading proposed. Indicate source of fill.

n/a

f. Could erosion occur as a result of clearing, construction, or use? ☐ Yes ☒ No. If yes, generally describe.

g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)?

Project will not affect amount of impervious surface on site.

h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any:

n/a

2. AIR

a. What types of emissions to the air would result from the proposal (i.e., dust, automobile, odors, industrial wood smoke, greenhouse gases) during construction, operation, and maintenance when the project is completed? If any, generally describe and give approximate quantities, if known.

Due to space limitations in the form, a response to this question is provided in an attachment at the end of the Environmental Checklist.

b. Are there any off-site sources of emissions or odor that may affect your proposal? ☐ Yes ☒ No.
If yes, generally describe.

c. Proposed measures to reduce or control emissions or other impacts to air, if any:

The aggregate dryer is equipped with a baghouse to control air emissions. Installation or alteration of the dryer baghouse did not increase air emissions.

3. WATER

a. Surface

1. Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands) ? ☒ Yes ☐ No. If yes, describe type and provide names. If appropriate, state what stream or river it flows into.

Lake Washington borders the site on the south.

2. Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? ☐ Yes ☒ No. If yes, please describe and attach available plans.

3. Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.

n/a

4. Will the proposal require surface water withdrawals or diversions? ☐ Yes ☒ No.
Give general description, purpose, and approximate quantities if known.

5. Does the proposal lie within a 100-year floodplain? ☐ Yes ☒ No. If yes, note location on the site plan.

ENVIRONMENTAL CHECKLIST

6. Does the proposal involve any discharges of waste materials to surface waters? ☐ Yes ☒ No. If yes, describe the type of waste and anticipated volume of discharge.

b. Ground Water

1. Will groundwater be withdrawn from a well for drinking water or other purposes? ☐ Yes ☒ No. If yes, give a general description of the well, proposed uses and approximate quantities withdrawn from the well.

Will water be discharged to groundwater? ☐ Yes ☒ No. If yes, give general description, purpose, and approximate quantities, if known.

2. Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: domestic sewage; industrial, containing the following chemicals...; agricultural; etc.). Describe the general size of the systems, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.

n/a

c. Water Runoff (including storm water)

1. Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? ☒ Yes ☐ No. If yes, describe.

Stormwater at the site is collected through surface flow and catch basins. It is directed through a treatment system prior to discharge to Lake Washington.

2. Could waste material enter ground or surface waters? ☐ Yes ☒ No. If yes, generally describe.

3. Does the proposal alter or otherwise affect drainage patterns in the vicinity of the site? ☐ Yes ☒ No. If yes, describe.

d. Proposed measures to reduce or control surface, ground, and runoff water, and drainage pattern impacts, impacts, if any:

None proposed. Site will continue to comply with requirements of NPDES Sand and Gravel permit.

ENVIRONMENTAL CHECKLIST

4. PLANTS				
a. Check the types of vegetation found on the site:				
Deciduous Trees:	☐ Alder	☐ Maple	☐ Aspen	☐ other (specify):
Evergreen Trees:	☐ Fir	☐ Cedar	☐ Pine	☐ other (specify):
☐ Shrubs				
☐ Grass				
☐ Pasture				
☐ Crop or Grain				
☐ Orchards, Vineyards, or other permanent crops				
☐ Other types of Vegetation (specify):				
Wet Soil Plants:	☐ Cattail	☐ Buttercup	☐ other (specify):	
	☐ Bulrush	☐ Skunk Cabbage		
Water Plants:	☐ Water Lily	☐ Eelgrass	☐ Milfoil	☐ other (specify):

b. What kind and amount of vegetation will be removed or altered?

None.

c. List threatened or endangered species known to be on or near the site.

None known.

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:

n/a

e. List all noxious weeds and invasive species known to be on or near the site.

Himalayan blackberry is present along the shoreline.

ENVIRONMENTAL CHECKLIST

5. ANIMALS

a. Indicate birds and other animals that have been observed on or near the site or are known to be on or near the site.

Birds:	☒ Hawk	☐ Heron	☐ other (specify):
	☒ Eagle	☒ Songbirds	
Mammals:	☐ Deer	☐ Bear	☐ other (specify):
	☐ Elk	☐ Beaver	
Fish:	☐ Bass	☐ Salmon	☐ Trout
	☐ Hearing	☐ Shellfish	☐ other (specify):

b. List any threatened or endangered species known to be on or near the site.

Chinook, coho, Kokanee, coastal cutthroat, and Dolly Varden/Bull trout are present in Lake Washington.

c. Is the site part of a migration route? ☒ Yes ☐ No. If yes, explain.

Pacific Flyway for migratory birds.

d. Proposed measures to preserve or enhance wildlife, if any:

None proposed.

e. List any invasive animal species known to be on or near the site.

None known.

6. ENERGY AND NATURAL RESOURCES

a. What kinds of energy (electric, natural gas, oil, woodstove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.

Electric and natural gas to support plant operations.

b. Would your project affect the potential use of solar energy by adjacent properties? ☐ Yes ☒ No. If yes, generally describe.

c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any:

None proposed.

ENVIRONMENTAL CHECKLIST

7. ENVIRONMENTAL HEALTH

a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste that could occur as a result of this proposal? ☒ Yes ☐ No.
If yes, describe:

Storage of hydrocarbons occurs on site which introduce the risk of a spill.

2. Describe any known or possible contamination at the site from present or past uses.

None known.

3. Describe existing hazardous chemicals/conditions that might affect project development and design. This includes underground hazardous liquid and gas transmission pipelines located within the project area and in the vicinity.

None known.

4. Describe any toxic or hazardous chemicals that might be stored, used, or produced during the project's development or construction, or at any time during the operating life of the project.

Operations requires the use of performance grade asphalt cement for the production of asphalt. The site also stores diesel to fuel site equipment (e.g. loader). The material is stored in tanks within secondary containment. In addition, the site has a Spill Prevention Control and Countermeasures plan and spill kits.

5. Describe special emergency services that might be required.

None.

6. Proposed measures to reduce or control environmental health hazards, if any:

None proposed as part of the proposed project.

b. Noise

1. What types of noise exist in the area that may affect your project (for example, traffic, equipment, operation, other)?

None.

2. What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example, traffic, construction, operation, other)? Indicate what hours noise would come from the site.

Project was completed during daylight working hours. No changes to plant operating hours proposed as a result of this project.

3. Proposed measures to reduce or control noise impacts, if any:

None proposed.

ENVIRONMENTAL CHECKLIST

8. LAND AND SHORELINE USE

a. What is the current use of the site and adjacent properties? Will the proposal affect current land uses on nearby or adjacent properties? ☐ Yes ☒ No. If yes, describe.

Site currently supports an asphalt and a concrete batch plant. The site is bounded on the north by the Burke Gilman Trail and State Route 522, on the west by industrial uses, on the east by commerical uses, and on the south by Lake Washington.

b. Has the project site been used as working farmlands or working forest lands? ☐ Yes ☒ No. If yes, describe. How much agricultural or forest land of long-term commercial significance will be converted to other uses as a result of the proposal, if any? If resource lands have not been designated, how many acres in farmland or forest land tax status will be converted to nonfarm or nonforest use?

1. Will the proposal affect or be affected by surrounding working farm or forest land normal business operations, such as oversize equipment access, the application of pesticides, tilling, and harvesting? ☐ Yes ☒ No. If yes, how?

c. Describe any structures on the site.

Asphalt batch plant.
Concrete batch plant.

d. Will any structures be demolished? ☐ Yes ☒ No. If yes, what?

e. What is the current zoning classification of the site?

Regional Business (RB)

f. What is the current comprehensive plan designation of the site?

Regional Business

g. If applicable, what is the current shoreline master program designation of the site?

Downtown Waterfront (DW)

h. Has any part of the site been classified as a critical area by the city or community? ☒ Yes ☐ No. If yes, specify.

Seismic hazard.

i. Approximately how many people would reside or work in the completed project?

Project will not change current staffing levels at the site.

j. Approximately how many people would the completed project displace?

0

k. Proposed measures to avoid or reduce displacement impacts, if any:

None proposed.

l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:

Site is a non-conforming use. No expansion or change in use is proposed. Project is specific to maintenance activities.

m. Proposed measures to ensure the proposal is compatible with nearby agricultural and forest lands of long-term commercial significance, if any:

None proposed.

9. HOUSING

a. Approximately how many units would be provided, if any? Indicate whether high- middle- or low-income housing.

n/a

b. Approximately how many units, if any, would be eliminated? Indicate whether high- middle- or low-income housing.

n/a

c. Proposed measures to reduce or control housing impacts, if any:

n/a

10. AESTHETICS

a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?

No structures proposed. Project is specifically maintenance activities on existing structures.

b. What views in the immediate vicinity would be altered or obstructed?

None.

c. Proposed measures to reduce or control aesthetic impacts, if any:

None proposed.

ENVIRONMENTAL CHECKLIST

11. LIGHT AND GLARE

a. What type of light or glare will the proposal produce? What time of day would it mainly occur?

None

b. Could light or glare from the finished project be a safety hazard or interfere with views?

No

c. What existing off-site sources of light or glare may affect your proposal?

None

d. Proposed measures to reduce or control light and glare impacts, if any:

None proposed

12. RECREATION

a. What designated and informal recreational opportunities are in the immediate vicinity?

Water recreation occurs on Lake Washington. Public access trail is on north side of site.

b. Would the proposed project displace any existing recreational uses? ☐ Yes ☒ No. If yes, describe.

c. Proposed measures to reduce or control impacts on recreation, including recreational opportunities to be provided by the project or applicant, if any:

None proposed.

13. HISTORIC AND CULTURAL PRESERVATION

a. Are there any buildings, structures, or sites, located on or near the site that are over 45 years old listed in or eligible for listing in national, state, or local preservation registers located on or near the site?
☐ Yes ☒ No. If yes, specifically describe.

b. Are there any landmarks, features, or other evidence of Indian or historic use or occupation? This may include human burials or old cemeteries. Are there any material evidence, artifacts, or areas of cultural importance on or near the site? Please list any professional studies conducted at the site to identify such resources.

None known.

c. Describe the methods used to assess the potential impacts to cultural and historic resources on or near the project site. Examples include consultation with tribes and the department of archeology and historic preservation, archaeological surveys, historic maps, GIS data, etc.

n/a

d. Proposed measures to avoid, minimize, or compensate for loss, changes to, and disturbance to resources. Please include plans for the above and any permits that may be required.

None proposed.

14. TRANSPORTATION

a. Identify public streets and highways serving the site or affected geographic area and describe proposed access to the existing street system. Show on-site plans, if any.

Site is accessed via NE Bothell Way (WA522) and NE 175th Street.

b. Is site or affected geographic area currently served by public transit? ☒ Yes ☐ No. If yes, generally describe. If not, what is the approximate distance to the nearest transit stop?

Public transit available along WA522

c. How many parking spaces would the completed project or non-project proposal have? How many would the project or proposal eliminate?

n/a

d. Will the proposal require any new or improvements to existing roads, streets, pedestrian, bicycle or state transportation facilities, not including driveways? ☐ Yes ☒ No. If yes, generally describe (indicate whether public or private).

e. Will the project use (or occur in the immediate vicinity of) water, rail, or air transportation? ☐ Yes ☒ No. If yes, generally describe.

f. How many vehicular trips per day would be generated by the completed project or proposal? If known, indicate when peak volumes would occur and what percentage of the volume would be trucks (such as commercial and nonpassenger vehicles). What data or transportation models were used to make these estimates?

None

g. Will the proposal interfere with, affect or be affected by the movement of agricultural and forest products on roads or streets in the area? ☐ Yes ☒ No. If yes, generally describe.

h. Proposed measures to reduce or control transportation impacts, if any:

None proposed.

15. PUBLIC SERVICES

a. Would the project result in an increased need for public services (for example, fire protection, police protection, public transit, health care, schools, other)? ☐ Yes ☒ No. If yes, generally describe.

b. Proposed measures to reduce or control direct impacts on public services, if any:

None proposed.

16. UTILITIES

a. Indicate utilities currently available at the site:

☒ Electricity	☒ Natural gas	☒ Water	☒ Refuse Service
☒ Telephone	☒ Sanitary Sewer	☐ Septic System	☐ Other (specify):

b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity that might be needed.

Project does not impact utilities.

C. SIGNATURE

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.	
Signature	John Ross
Name	John Ross
Position	Area Manager, Asphalt
Agency/Organization	Cadman Materials
Date Submitted	5/18/21

ENVIRONMENTAL CHECKLIST

D. SUPPLEMENTAL SHEET FOR NON-PROJECT ACTIONS

(Do not use this sheet for project actions)

Because these questions are very general, it may be helpful to read them in conjunction with the list of the elements of the environment in section B of this checklist.

When answering these questions, be aware of how the extent the proposal, or the types of activities likely to result from the proposal, would affect the item at a greater intensity or at a faster rate than if the proposal were not implemented. Respond briefly and in general terms.

1. How would the proposal be likely to increase discharge to water; emissions to air; production, storage, or release of toxic or hazardous substance; or production of noise?
Proposed measures to avoid or reduce such increases are:
2. How would the proposal be likely to affect plants, animals, fish, or marine life?
Proposed measures to protect or conserve plants, animals, fish, or marine life are:
3. How would the proposal be likely to deplete energy or natural resources?
Proposed measures to protect or conserve energy and natural resources are:
4. How would the proposal be likely to use or affect environmentally sensitive areas or areas designated (or eligible or under study) for governmental protection; such as parks, wilderness, wild and scenic rivers, threatened or endangered species habitat, historic or cultural sites, wetlands, floodplains, or prime farmlands?
Proposed measures to protect such resources or to avoid or reduce impacts are:
5. How would the proposal be likely to affect land and shoreline use, including whether it would allow or encourage land or shoreline uses incompatible with existing plans?

Proposed measures to avoid or reduce shoreline and land use impacts are:
6. How would the proposal be likely to increase demands on transportation or public services and utilities?
Proposed measures to reduce or respond to such demand(s) are:
7. Identify, if possible, whether the proposal may conflict with local, state, or federal laws or requirements for the protection of the environment.

Cadman Kenmore Dryer Component Replacement Project

Response to Item 2a (AIR)

a. What types of emissions to the air would result from the proposal (i.e., dust, automobile, odors, industrial wood smoke, greenhouse gases) during construction, operation, and maintenance when the project is completed? If any, generally describe and give approximate quantities, if known.

This proposal addresses several plant maintenance improvements completed at the Kenmore facility. In April 2011, condensing filters were installed on the asphalt tanks at the facility; one of these filters was replaced in August 2017. The purpose of the filters is to reduce hydrocarbon and particulate emissions from the tanks. Over time, various changes have been made to the baghouse system (addition of bags, exhaust fan replacement, modified ductwork, and alterations of the baghouse body) that controls particulate emissions from the aggregate dryer. These changes did not alter the emissions from the baghouse from the original design.

In 2003, the burner was replaced with a newer slightly smaller burner; the smaller size and use of a newer burner design resulted in a decrease in emissions. In 2018, the dryer shell and internal dryer flights were replaced with new components; these were like-kind replacements that did not increase emissions.

The dryer, its associated burner, and other sources ducted to the dryer baghouse, generate emissions of particulate matter, $PM_{2.5}$, PM_{10}, NO_X, SO_2, VOC, CO, greenhouse gases, odors, and Washington-regulated toxic air pollutants. Estimated emissions of criteria pollutants and greenhouse gases from the dryer at its maximum capacity and hours of operation are shown below. However, it should be noted that these emission estimates represent total emissions from the dryer, and not an emission increase.

PM_{10}	14.9 tons per year (tpy)
$PM_{2.5}$	14.2 tpy
SO_2	0.5 tpy
NO_X	10.0 tpy
VOC	0.8 tpy
CO	59.2 tpy
CO_2e	25,644 tpy

Though none of the activities in this proposal increased emissions of air pollutants, Cadman is applying for an air permit that reflects the current status of the equipment and clarifies the production limitations of the dryer.