

# STAFF REPORT    LAND MANAGEMENT COMMITTEE

Land Management Committee Meeting,

February 17, 2021

Agenda Item 4

**Applicant:** Monarch Paving Co.

**Request:** CUP for a Temporary Hot Mix Asphalt Plant

## **Background:**

Monarch Paving Co. has applied for a Conditional Use Permit to place a temporary hot mix asphalt plant in their permitted rock quarry on Hwy 10 in the Town of Oak Grove. The site is requested to be used for resurfacing State Hwy 29 from Prescott to River Falls. Milestone Materials has been operating the quarry since 2015. Monarch Paving is a division of Mathy Construction Company which is a division of Milestone Materials.

Monarch Paving indicated in the CUP application that the plant may also supply hot mix asphalt to Dunn County, St. Croix County, or other local municipalities or private citizens (driveways in the area).

## **Issues Pertaining to the Request:**

- The property is located in the NW ¼ of the NW ¼ in Section 12, T26N, R20W, in the Town of Oak Grove. The property is zoned General Rural Flexible 8.
- Temporary asphalt plants may be conditionally permitted in the General Rural Flexible 8 zoning district per Pierce County Code (PCC) 240-42(F) subject to the following:
  1. In addition to the application requirements established in §240-76, the following information shall be submitted with the application:
    - a. Plans for controlling erosion of stockpiled material used in manufacturing concrete or asphalt.
    - b. Restoration plan for the site which describes or illustrates measures taken to restore the site to a condition of practical usefulness and reasonable physical attractiveness. The restoration plan shall describe methods for establishing vegetative cover.
  2. Conditional use permits granted for temporary concrete or asphalt batch plants shall be only for the period of the actual work project.
  3. Temporary concrete or asphalt batch plants shall be removed from the premises within 60 days of completion of the project.
- Asphalt plants which are accessory uses to non-metallic mining also fall under the regulations of PCC 240-37(B) and shall meet the following:
  1. Such uses shall be located a minimum distance of 1,000 feet from dwellings and 100 feet from property lines.
  2. Hot mix asphalt plants shall be licensed for air emissions by WI DNR.
  3. Reclamation of sites and bonds required.

Applicant: Monarch Paving Co.  
February 17, 2021  
CUP for a Temporary Hot Mix Asphalt Plant

- Asphalt plants are regulated by Federal, State, and Local Government. All portable asphalt plants are regulated with Spill Prevention Control and Countermeasures Plans, Air Permits, and Stormwater Permits to protect the site and surrounding area.
- The DNR Air Permit is intended to keep emissions lower than the ambient air standards established by the State of Wisconsin.
- The lowest elevation of the quarry floor is approximately 830' but the majority of the quarry floor elevation is approximately 856'
- The haul route will be from State Hwy 10 to State Hwy 29. The only hauling conducted on town roads would be for a delivery for local sales on a town road.
- The applicant has indicated that the asphalt plant would be at the quarry for approximately 8-10 weeks. The time period would be between May and October of 2021, depending on weather conditions and project scheduling.
- Equipment and structures to be used for production of hot mix asphalt include: Aggregate bins, rotary drying and mixing drum, conveyors, storage silo(s), control house, baghouse, petroleum product storage tanks, storage trailer, front end loader, haul trucks, portable chemical toilets.
- Proposed hours of operation are 5:30 a.m. to 9:00 p.m. Monday through Saturday. At times maintenance would be required that would exceed these hours. There will be typically 2-4 employees working at the plant during operation hours. Applicant can expand on the rationale for requested hours if needed.
- The Land Management Department has received 2 correspondences prior to finalizing this staff report from nearby property owners recommending denial of this CUP. These full correspondences were included in your staff report packets. A summary of the concerns listed in these correspondences include:
  - Potential short-term and long-term health effects from the air quality as a result of chemicals used in the hot mix asphalt plant, particularly benzene exposure. Both correspondences came from nearby property owners with pre-existing health conditions.
  - The hours that trucks would be allowed to haul based on the proposed hours of operation.
- Public health and safety are referenced throughout the Pierce County Zoning Ordinance (240-4 Purpose, 240-76 Conditional Use Permits). 2017 Wisconsin Act 67 created new rules for Conditional Use Permits. A key principle of the act is that local governments must grant a CUP if the applicant meets or agrees to meet all requirements specified in the ordinance or imposed by the board or committee. Additionally, any decision to deny a CUP request must be based on "substantial evidence" versus opinion or conjecture.
- Staff recently discussed the health concerns raised by the nearby residents and the process for a Land Management Committee decision with Pierce County's Corporation Counsel.

Based on legal advice received, each neighbor expressing health concerns was asked to provide "substantial evidence" relating to the individual's health condition as well as "substantial evidence" as to how the proposed temporary asphalt plant could/would be harmful to the individual's health. These

Applicant: Monarch Paving Co.  
February 17, 2021  
CUP for a Temporary Hot Mix Asphalt Plant

submittals will then be provided to the applicant who will be asked to provide their own “substantial evidence” relating to their position regarding the validity or likelihood of the identified health concerns. This information provided will be provided to the LMC as soon as it is available.

The Land Management Committee will need to make a determination regarding the potential for negative health impacts based on the “substantial evidence” provided by each of the parties.

- Staff spoke to the Pierce County Highway Commissioner regarding appropriate signage to be placed on Highway 10. It was recommended that foldable aluminum, black and orange “trucks hauling” or “trucks entering” signs with orange flags on top of the signs be placed on both sides of the quarry entrance. Signs should in place during hauling and removed at night or during non-haul days.
- The Town of Oak Grove recommended approval of this CUP application on January 18, 2021 with the following concerns/suggested conditions:
  1. Monarch shall make a local point of contact available to impacted residents.
  2. Set more concrete hours pertaining to heavy traffic and machines generating odor.
  3. Cut back trees and brush in the HWY 10 Right-of-way to improve sight lines near access point.
  4. Limit period of operation to duration of HWY 29 asphalt work (approx. 8-10 weeks)

### **Recommendation:**

Staff recommends the Land Management Committee determine whether the proposed use at the proposed location would be contrary to the public interest and whether it would be detrimental or injurious to public health, public safety, or the character of the surrounding area. If found to be not contrary to the above, staff recommends the Land Management Committee approve this conditional use permit for a Temporary Hot Mix Asphalt Plant with the following conditions:

1. Activities shall be conducted as presented in the application unless modified by a condition of this CUP.
2. Hours of operation shall be 5:30 a.m. to 9:00 p.m. Monday through Saturday, unless modified by the LMC.
3. Applicant shall remove equipment within 60 days of project completion.
4. DNR air permit for air emissions shall be submitted to Land Management Department.
5. Applicant shall provide a local point of contact to the Land Management Department.
6. The CUP shall be only for the period of the actual work project on Hwy 29 from Prescott to River Falls.
7. Applicant shall place foldable aluminum, black and orange “trucks hauling” or “trucks entering” signs with orange flags on top of the signs on both sides of the quarry entrance. Signs shall be placed during hauling and removed at night or during non-haul days. Pierce County Highway Department shall be consulted regarding placement of signs.

**Submitted By:** Adam Adank,  
Zoning Specialist

---

**TO:**

Town of Oak Grove Plan Commission & Town Board  
Pierce County Zoning Department

**IN REFERENCE TO:**

A Conditional Use Permit Request for a Temporary Asphalt Plant  
Milestone Material's Prescott Quarry – Information Booklet

**SUBMITTED BY:**

Monarch Paving Company  
768 US Hwy 8  
Amery, WI 54001

**DATE:**

12/17/2020

---

## **1.0 INTRODUCTION**

Monarch Paving Company, a Division of Mathy Construction, is submitting this information booklet in support of a request for a Conditional Use Permit for a temporary Hot Mix Asphalt Plant at the Milestone Materials Prescott Quarry located on US Highway 10 in the Town of Oak Grove. The asphalt plant will be used primarily for the WI DOT Projects SP#7650-01-74 & SP#7650-01-75 & SP#7650-02-73 all on State Highway 29 from Prescott to River Falls. The plant may also supply Hot Mix Asphalt to Dunn County, Pierce County, St. Croix County, or to other local municipalities or private citizens (driveways in the area).

## **2.0 LAND OWNERSHIP**

The Prescott Quarry is owned by Riley/Romero, LLC. Their address is: 668 Laura Street, Prescott, WI 54021. The Prescott Quarry is operated by Milestone Materials, a Division of Mathy Construction Company. Their address is: 920 10<sup>th</sup> Avenue North, Onalaska, WI 54650. Monarch Paving, a Division of Mathy Construction Company, will operate a temporary asphalt plant. Their address is: 768 US Hwy 8, Amery, WI 54001.

## **3.0 HISTORY**

The Prescott Quarry has been in operations for over 45 years. It was originally operated by Pierce County and then operated by Prescott Stone, LLC. Milestone Materials, a Division of Mathy Construction Company, has been operating the Prescott Quarry since 2015.

## **4.0 LOCATION**

The Prescott Quarry is located in Section 12, Township 26 North, Range 20 West, Pierce County, Wisconsin. Please see **Figure 1** for the location map of the Prescott Quarry.

## **5.0 SITE CHARACTERISTICS & SURROUNDING LAND USE**

A majority of the Prescott Quarry is actively used for nonmetallic mineral extraction. Unopened acreage within the mine boundary is forest land. The land uses surrounding the Prescott Quarry are: agriculture, forestry, and residential.

## **6.0 SITE SCREENING**

The asphalt operation is screened from viewing by existing vegetation, quarry faces, and a berm following the eastern property line of the Prescott Quarry.

## **7.0 SCHEDULE**

The proposed temporary asphalt plant will be at the Prescott Quarry for approximately 8-10 weeks. The time period will be between May and October of 2021, depending on weather conditions and project scheduling.

## **8.0 OPERATION ACTIVITY**

The temporary hot mix plant will sit on the existing quarry floor and place a minimum of 1,000 feet from any residence. Sand will be trucked in from another source and stockpiled in the quarry. Limestone will be mined from the quarry and stockpiled. Hours of operation from the asphalt plant are typically from 5:30 a.m. to 9:00 p.m., Monday

through Saturday. At times, asphalt plant maintenance may be required that would exceed these hours. There are typically 2-4 employees working at the asphalt plant during operation hours.

#### **9.0 STRUCTURES & EQUIPMENT**

The following list is required for production of hot mix asphalt.

- Aggregate bins
- Rotary drying and mixing drum
- Conveyers
- Storage silo(s)
- Control house
- Baghouse
- Petroleum product storage tanks
- Storage trailer
- Front end loader
- Haul trucks
- Portable Chemical Toilets

#### **10.0 HAUL ROUTES**

Haul traffic will continue to be hauled from the site via State Highway 10. The only hauling conducted on town roads would be for a delivery for local sales on a town road.

#### **11.0 EROSION CONTROL**

All asphalt plants are regulated by the Federal, State, and Local Government. All portable asphalt plants are regulated with Spill Prevention Control and Countermeasures Plans, Air Permits, and Stormwater Permits to protect the site and surrounding area.

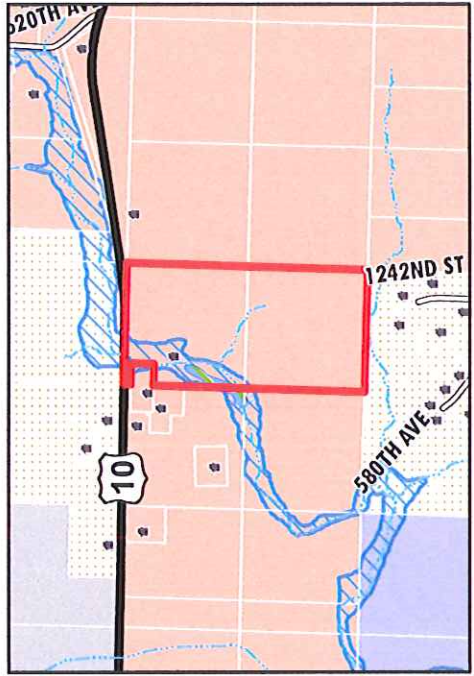
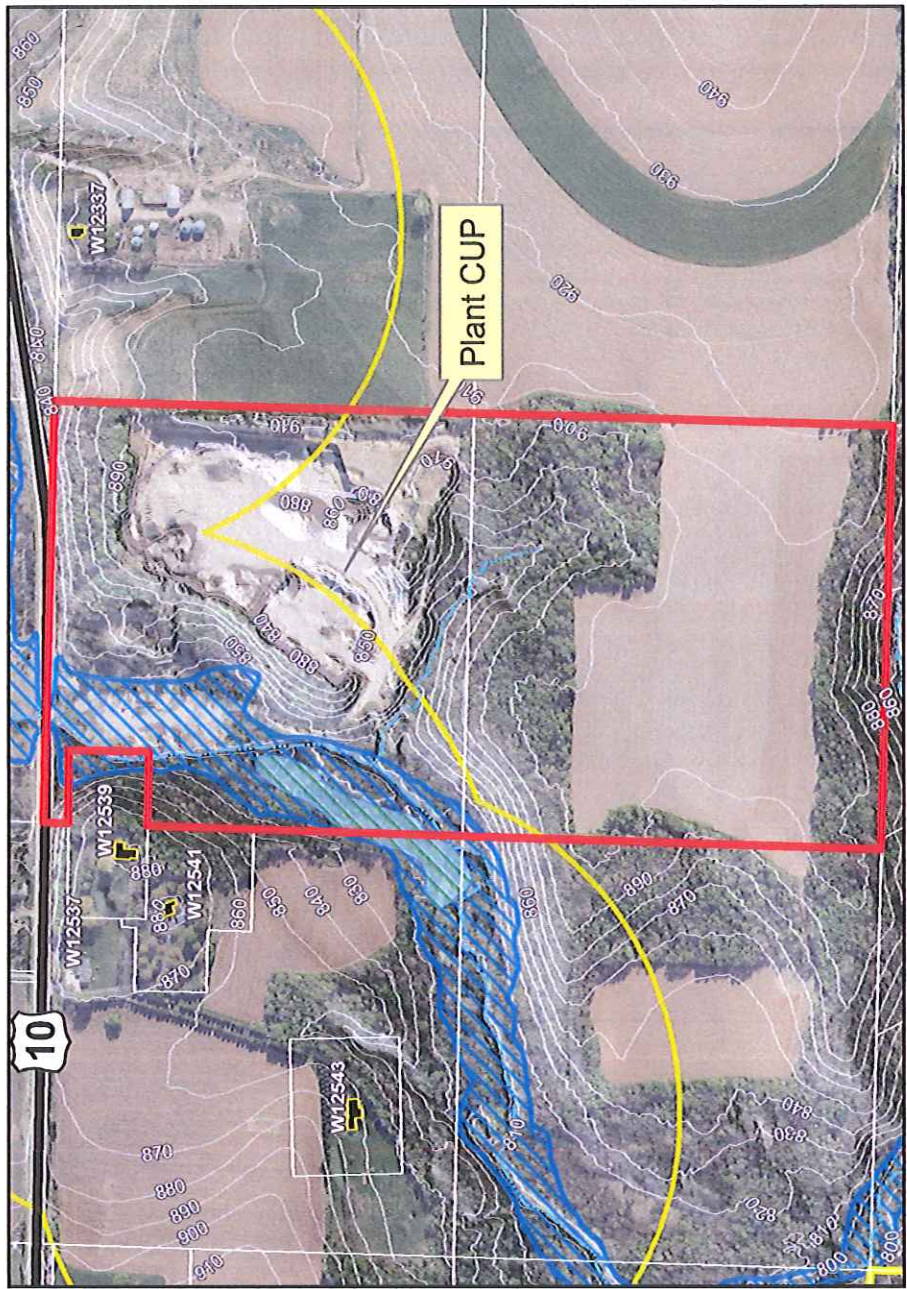
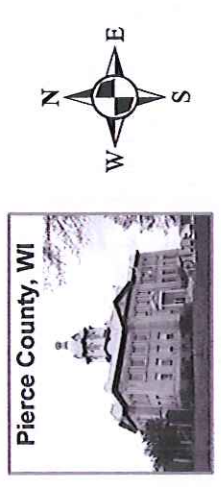
# Land Management Committee

Monarch Paving Co  
(February 17, 2021)  
CUP - Temporary Asphalt Plant

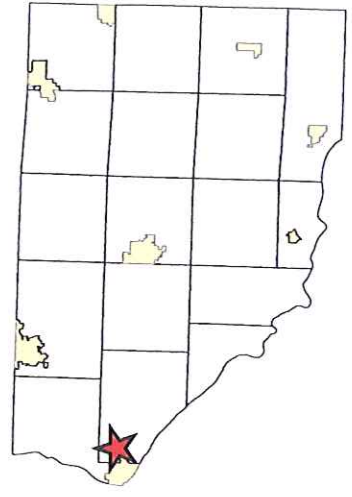
## Legend

- Dwellings
- Mining CUP
- Residences near plant
- 1000 Ft. Buffer (Residences)
- Parcels
- Contours (10ft)
- 100 Yr Floodway/ No Base Elev. Det
- Wetlands
- Zoning**
- City of Prescott
- General Rural Flexible - 8
- Light - Industrial
- Rural Residential - 12

Orthophotography - 2020 Pierce County



**Site Location**  
W12495 US HWY 10  
TOWN OF OAK GROVE



February 8, 2021

Andy Pichotta, Manager  
Pierce County Land Conservation  
414 West Main Street, Room 10  
Ellsworth WI 54022

RE: Monarch Paving CUP Application for Temporary Asphalt Plant at the Riley/Romaro Pit

Dear Andy:

I am unable to attend the February 17, 2021 Public Hearing so I am providing written comments on the CUP application from Monarch Paving.

I attended the January Oak Grove Town Board meeting. At the meeting representatives from Monarch Paving stated repeatedly that they can meet or exceed EPA and WDNR air quality standards. However, even if they are compliant, all asphalt plants omit benzene into the air. Benzene is a known cancer causing agent that no one should be exposed to, even at trace amount.

My husband grew up in St. Paul Park and we lived near the refinery. In 2009, my husband was diagnosed with chronic lymphocytic leukemia. Exposure to benzene is one of the causes of this type of cancer. Since moving to Oak Grove Township 5 years ago, my husband's white cell count has gone down which is almost unheard of. He asked his oncologist about moving away from the refinery and the benzene in the air, although nothing can be proven the doctor said it appears to have helped. This is the main reason for my objection to the plant being located across the street from me.

My other comment is regarding the proposed hours of operation. Monarch Paving is proposing 5:00 am to 9:00 pm Monday through Saturday. Their reasoning is that they need to do maintenance before and after the trucking begins and ends. To my knowledge the proposal lacks specific hours when trucks would be allowed to haul. I would like to see a specific time set in the CUP that trucks would be allowed to haul. I would suggest 7:00 am to 6:00 pm, Monday through Friday, and 7:00 am to 3:00 pm on Saturday. (Last loads at 6:00 pm and 3:00 pm respectively).

As someone living directly across the street from the pit who works from home, I should not have to listen to trucks lining up to get loaded before 7:00 am, and I should not have to listen to them all day on Saturday.

Thank you for your consideration.

Sincerely,



Dee McDaniels  
W12532 US Highway 10  
Prescott WI 54021  
651-785-8861





Adam Adank &lt;adam.adank@co.pierce.wi.us&gt;

---

## temp hot mix plant

---

Adam Adank <adam.adank@co.pierce.wi.us>  
To: Adam Adank <adam.adank@co.pierce.wi.us>

Mon, Feb 8, 2021 at 12:40 PM

On Thu, Jan 21, 2021 at 2:36 PM Michelle Huber Photography <michellehuber2005@hotmail.com> wrote:

Andy,

I've been doing some research on hot mix asphalt plants in order to determine the impact (if any) to having one located about 1/2 mile from our home, the distance of the location of the proposed Monarch Paving hot mix asphalt plant. I am concerned about potential long-term effects (cancer) for myself and surrounding residents, but for myself in particular I am especially even more immediately concerned about the Benzene exposure, even with a short term 8-10 week project.

The reason I am especially concerned about Benzene is that I have a genetic blood disorder called Spherocytosis. (it's a lot like sickle cell anemia) I learned that I have this disorder when I was in my 20's when I had a hemolytic crisis and nearly died. My blood platelets dropped to 9,000. I received blood transfusions, was in intensive care for one week and had one year of recovery and treatment which looked much like what a Leukemia patient goes through. I try to maintain a healthy lifestyle. I take vitamin supplements, eat healthy, I don't smoke, stay away from second hand smoke, exercise everyday- spend a lot of time outdoors, do agility training with my dog among many other outdoor activities. I also have Reactive Airways Dysfunction, which causes me to have an extreme sensitivity to chemicals, perfumes or allergens in the air. Have you ever had your own saliva go down the wrong tube and make you kind of choke? That's what happens to me if I'm around perfume, cigarette smoke, dust, etc.. only I keep coughing and coughing, it's very annoying and embarrassing so I do whatever I can to avoid this from happening. When the compost site near us has fires, it makes me so ill I have to stay indoors. The latter problem is more of an annoyance, but the Spherocytosis can be life threatening. Benzene exposure is known to reduce red blood cells. I can't afford to have that happen to me. Even though I am taking good care of myself, my red blood cells are always at about only 50%. An increase in Benzene exposure is likely to lower my red blood cells further, which could quickly become a life-threatening situation for me. I am happy to provide documentation from my doctor to confirm all of this information. Please let me know if it would be helpful to provide info from my doctor. I'm happy to answer any questions and cooperate in any way.

I have attached a pdf of DNR test results from one of Monarch Paving's sites that uses the same equipment (drum mixer process) described that they propose using for the new temporary hot mix asphalt plant on HWY 10 in Oak Grove. In this report the test shows 65.45020 lbs of Benzene. I also have a pdf of an example of a study from a hot mix asphalt plant with similar equipment which also produced about the same amount of Benzene. Included in the study is a mathematical equation of those levels and how far they are able to travel and the recommended action. See attachment C of this pdf for the Benzene amounts. Air exposure of Benzene occurs at even 2 miles from the site. I have also attached a large document with a collection of information on Hot Mix asphalt plants including studies, lawsuits, documented cancer clusters near them and other information.

For most people this amount of benzene exposure and other chemicals might be ok for the short term proposed 8-10 weeks, albeit annoying, smelly, maybe ruin your outdoor summer enjoyment for the season, but for me this amount of proposed Benzene exposure at our location which is about 1/2 mile from the plant could become deadly really quick. I have managed to keep my blood healthy enough to stay out of the hospital for many years. If my red blood cell counts suddenly drop as a result of this temporary hot mix asphalt plant, and I become ill or worse, it seems that Monarch Paving should be held responsible. Or perhaps the County for allowing it? It seems that they have other locations that they already use for hot mix asphalt production with people living nearby those sites that are ok with this. It seems morally wrong to force people to have to be exposed to these harmful chemicals, especially people with preexisting conditions that are especially sensitive to these chemicals. I know that I also have a neighbor who lives across the street from the site who has leukemia, this can't be good for them either. I would like Land Management to please consider denial of this proposed CUP, or if nothing else add conditions that include Monarch being held responsible if I become ill or worse from this temporary hot

mix asphalt plant. Again, I am happy to provide documentation from my doctor if it would be helpful at all, please just let me know.

I am hoping you will please forward this information to the rest of the land Management Committee in consideration for the Monarch Paving CUP. Will there be a public hearing on this? I see nothing on the new website with information on meetings.

Thank you,

**Michelle Huber**  
W12235 620th Avenue  
Prescott, WI  
Town of Oak Grove  
cell: 651-983-8881  
home: 715-262-0152

---

### 3 attachments



**2018\_EmissionSummaryFinal.pdf**

24K



**specific study, same Benzene amount.pdf**

66K



**Asphalt-Plants-collection of info.pdf**

8084K

FINAL

Wisconsin Department of Natural Resources  
Air Management Program

FID: 999012630

999012630 MONARCH PAVING DIVISION PLANT #5  
920 10th Ave N  
Onalaska

DNR Region: West Central

County: La Crosse

SIC Code: 2951 -- ASPHALT PAVING MIXTURES  
AND BLOCKS

NAICS Code: 324121 -- Asphalt Paving Mixture and Block Manufacturing

# Employees: 2

Area: 130680 ft2

Samantha Kaster  
Facility Air Management Contact

(507) 252-3462  
4105 E River Rd NE  
Rochester MN  
559063424  
Samantha.Kaster@mathy.com

Samantha Kaster  
Facility Billing Contact

(507) 252-3462  
4105 E River Rd NE  
Rochester MN  
559063424  
Samantha.Kaster@mathy.com

Tara Wetzel  
Facility Responsible Official

(608) 779-6322  
920 10th Ave N  
Onalaska WI 546502166  
tara.wetzel@mathy.com

Erin Hansel  
DNR Emission Inventory Contact

(920) 662-5403  
2984 Shawano Avenue  
Green Bay WI  
543136727  
Erin.Hansel@wisconsin.gov

FINAL

Wisconsin Department of Natural Resources  
Air Management Program

FID: 999012630

DEVICE AND PROCESS LIST

<u>DEVICE ID</u>	<u>DEVICE CODE</u>	<u>DEVICE NAME</u>	<u>DEVICE CATEGORY</u>
> <u>PROCESS ID</u>	> <u>PROCESS CODE</u>	> <u>PROCESS NAME</u>	> <u>PROCESS DESCRIPTION</u>
C01	FILTER	FILTER, FABRIC - MEDIUM TEMPERATURE	Fabric Filters
--> 01	CONTROLLING		Used for collectors
P33	DRYER	Fuel consumption for burner	Boiler/Furnace
--> 01	GENERIC	WASTE OIL	Generic Throughput Process
--> 02	GENERIC	Propane	Generic Throughput Process
P33A	ASPHALT MIXER	Asphalt Mixer thruput	Miscellaneous
--> 01	GENERIC	ASPHALT DRUM MIXER	Generic Throughput Process

FINAL

Wisconsin Department of Natural Resources  
Air Management Program

FID: 999012630

EMISSION FLOW SUMMARY

P33-01 ---(100%)--> C01-01

C01-01 ---(100%)--> S13-01 ---(100%)--> OUT

P33-02 ---(100%)--> C01-01

C01-01 ---(100%)--> S13-01 ---(100%)--> OUT

P33A-01 ---(100%)--> C01-01

C01-01 ---(100%)--> S13-01 ---(100%)--> OUT

FINAL

Wisconsin Department of Natural Resources  
Air Management Program

FID: 999012630

DEVICES/PROCESSES DETAILS

<b>C01</b>	<b>Fabric Filters</b>	<b>Filter, Mat or Panel</b>
<b>DEVICE DESC:</b> FILTER, FABRIC - MEDIUM TEMPERATURE		
<b>CONSTR DATE:</b>		
<b>DEVICE COMMENTS:</b>		
<b>--CTRL EFFIC--</b>		
<b>POLLUTANT</b>	<b>VALUE</b>	
PM10	99.9%	
PM	99.9%	

**C01, Process 01**      **Used for collectors**

**PROCESS NAME:**

**PROCESS COMMENTS:** Baghouse

**SCHEDULE:** 10 Hrs/Day

5 Dys/Wk

107 Dys/Yr

**QTRLY SCHEDULE:** Q1: 0%

Q2: 25%

Q3: 50%

Q4: 25%

**--INCOMING STREAMS--**

P33-01 (100%) --> C01-01

P33A-01 (100%) --> C01-01

P33-02 (100%) --> C01-01

**--OUTGOING STREAMS--**

C01-01 ---(100%)--> S13-01 ---(100%)--> OUT

<b>P33</b>	<b>Boiler/Furnace</b>	<b>Drying Equipment</b>
<b>DEVICE DESC:</b> Fuel consumption for burner		
<b>CONSTR DATE:</b>		
<b>DEVICE COMMENTS:</b> Baghouse change from Barber Greene to Gencor Bituma in 1995. Air flow increased to 70,000 ACFM.		
<b>MAX RATED CAPACITY:</b> 10 MMBTU/HR		

**P33, Process 01**      **Generic Throughput Process**

**PROCESS NAME:** WASTE OIL

**SCC CODE:** 10200502

**PROCESS COMMENTS:**

**SCHEDULE:** 10 Hrs/Day

5 Dys/Wk

107 Dys/Yr

**QTRLY SCHEDULE:** Q1: 0%

Q2: 25%

Q3: 50%

Q4: 25%

**ANNUAL TPUT:** 0 GAL

of Fuel Oil - Distillate  
(aka Diesel)

**AVG TPUT:** 0 GAL/HR

**MAX TPUT:** 760 GAL/HR

**--EMISSION FACTORS--**

FINAL

Wisconsin Department of Natural Resources  
Air Management Program

FID: 999012630

<u>POLLUTANT</u>	<u>VALUE / UNIT</u>	<u>ORIGIN</u>
CO	5 LB / E3 GAL	DNR
METHANE	.052 LB / E3 GAL	EPA
NOX	20 LB / E3 GAL	DNR
PM	0 LB / E3 GAL	DNR
PM10	0 LB / E3 GAL	DNR
ROG	.252 LB / E3 GAL	DNR

--INCOMING STREAMS--

TPUT --> P33-01

--OUTGOING STREAMS--

P33-01 ---(100%)--> C01-01

C01-01 ---(100%)--> S13-01 ---(100%)--> OUT

**P33, Process 02                      Generic Throughput Process**

PROCESS NAME: Propane

SCC CODE: 10201002

PROCESS COMMENTS:

SCHEDULE: 10 Hrs/Day

5 Dys/Wk

107 Dys/Yr

QTRLY SCHEDULE: Q1: 0%

Q2: 25%

Q3: 50%

Q4: 25%

ANNUAL TPUT: 327251 GAL

of Liquefied  
Petroleum Gas  
(propane)

AVG TPUT: 305.84206 GAL/HR

MAX TPUT: 400 GAL/HR

--EMISSION FACTORS--

<u>POLLUTANT</u>	<u>VALUE / UNIT</u>	<u>ORIGIN</u>
CO	3.2 LB / E3 GAL	EPA
CO2	12500 LB / E3 GAL	EPA
METHANE	.2 LB / E3 GAL	EPA
NOX	19 LB / E3 GAL	EPA
PM	0 LB / E3 GAL	EPA
PM10	0 LB / E3 GAL	EPA
ROG	.5 LB / E3 GAL	EPA

--EMISSIONS / YR--

<u>POLLUTANT</u>	<u>NR438_THRESH</u>	<u>UNCNTRLD</u>	<u>CNTRLD</u>	<u>OZONE/DY</u>
CO (c)	10000 LB	1,047.203 LB	1,047.203 LB	
NOX (c)	10000 LB	6,217.769 LB	6,217.769 LB	47.829 LB
ROG (c)	6000 LB	163.626 LB	163.626 LB	1.259 LB
CO2 (c)	200000000 LB	4,090,637.500 LB	4,090,637.500 LB	
METHANE (c)	10000000 LB	65.450 LB	65.450 LB	

--INCOMING STREAMS--

TPUT --> P33-02

FINAL

Wisconsin Department of Natural Resources  
Air Management Program

FID: 999012630

--OUTGOING STREAMS--

P33-02 ---(100%)--> C01-01

C01-01 ---(100%)--> S13-01 ---(100%)--> OUT

<b>P33A</b>	<b>Miscellaneous</b>	<b>Asphalt Mixer</b>
<b>DEVICE DESC:</b> Asphalt Mixer thruput		
<b>CONSTR DATE:</b>		
<b>DEVICE COMMENTS:</b>		

<b>P33A, Process 01</b>	<b>Generic Throughput Process</b>
<b>PROCESS NAME:</b> ASPHALT DRUM MIXER	
<b>SCC CODE:</b> 30500205	
<b>PROCESS COMMENTS:</b> need SCC code 30500205 for drum mixer	
<b>SCHEDULE:</b> 10 Hrs/Day	5 Dys/Wk
<b>QTRLY SCHEDULE:</b> Q1: 0%	Q2: 25%
<b>ANNUAL TPUT:</b> 102646.9 TON	107 Dys/Yr
<b>AVG TPUT:</b> 95.93168 TON/HR	Q3: 50%
<b>MAX TPUT:</b> 400 TON/HR	Q4: 25%

of PRODUCT - MINERALS
-----------------------

--EMISSION FACTORS--

<u>POLLUTANT</u>	<u>VALUE / UNIT</u>	<u>ORIGIN</u>
PM	28 LB / TON	EPA
PM10	6.5 LB / TON	EPA

--EMISSIONS / YR--

<u>POLLUTANT</u>	<u>NR438_THRESH</u>	<u>UNCNTRLD</u>	<u>CNTRLD</u>	<u>OZONE/DY</u>
PM (c)	10000 LB	2,874,113.200 LB	2,874.113 LB	
PM10 (c)	10000 LB	667,204.850 LB	667.205 LB	

--INCOMING STREAMS--

TPUT --> P33A-01

--OUTGOING STREAMS--

P33A-01 ---(100%)--> C01-01

C01-01 ---(100%)--> S13-01 ---(100%)--> OUT



FINAL

Wisconsin Department of Natural Resources  
Air Management Program

FID: 999012630

S13	Stack	Stack
	DEVICE DESC: baghouse stack	
	CONSTR DATE:	
	DEVICE COMMENTS: Gencor Bituma baghouse has circular 54 inch stack.	
	STACK HEIGHT: 6.1 m	or 20 ft
	STACK DIAMETER: 1.21 m	or 3.97 ft
	STACK TEMP: 410.76 K	or 279.7 F
	STACK VELOCITY: 20.51 m/s	or 67.29 ft/s

S13, Process 01      Releasing/Discharging  
material to the  
atmosphere

PROCESS NAME:

PROCESS COMMENTS: Baghouse

SCHEDULE: 10 Hrs/Day

5 Dys/Wk

127 Dys/Yr

QTRLY SCHEDULE: Q1: 0%

Q2: 25%

Q3: 50%

Q4: 25%

--INCOMING STREAMS--

C01-01 (100%) --> S13-01

--OUTGOING STREAMS--

S13-01 (100%) --> OUT

FINAL

Wisconsin Department of Natural Resources  
Air Management Program

FID: 999012630

FACILITY EMISSIONS SUMMARY

<u>-2018 SUMMARY-</u>	<u>--2018--</u>	<u>--2018--</u>	<u>--2018--</u>	<u>--2018--</u>
<u>--POLLUTANT--</u>	<u>--NR438_THRESH--</u>	<u>--UNCNTRLD/YR--</u>	<u>--CNTRLD/YR--</u>	<u>--OZONE/DY--</u>
CO	10000 LB	1,047.20320 LB	1,047.20320 LB	
NOX	10000 LB	6,217.76900 LB	6,217.76900 LB	47.82899 LB
PM	10000 LB	2,874,113.20000 LB	2,874.11320 LB	
PM10	10000 LB	667,204.85000 LB	667.20485 LB	
ROG	6000 LB	163.62550 LB	163.62550 LB	1.25866 LB
CO2	200000000 LB	4,090,637.50000 LB	4,090,637.50000 LB	
METHANE	10000000 LB	65.45020 LB	65.45020 LB	

<u>-2017 SUMMARY-</u>	<u>--2017--</u>	<u>--2017--</u>	<u>--2017--</u>	<u>--2017--</u>
<u>--POLLUTANT--</u>	<u>--NR438_THRESH--</u>	<u>--UNCNTRLD/YR--</u>	<u>--CNTRLD/YR--</u>	<u>--OZONE/DY--</u>
CO	10000 LB	1,465.61280 LB	1,465.61280 LB	
NOX	10000 LB	8,702.07600 LB	8,702.07600 LB	66.93905 LB
PM	10000 LB	4,035,320.80000 LB	4,035.32080 LB	
PM10	10000 LB	936,770.90000 LB	936.77090 LB	
ROG	6000 LB	229.00200 LB	229.00200 LB	1.76155 LB
CO2	200000000 LB	5,725,050.00000 LB	5,725,050.00000 LB	
METHANE	10000000 LB	91.60080 LB	91.60080 LB	

FINAL

Wisconsin Department of Natural Resources  
Air Management Program

FID: 999012630

REPORT LEGEND

--EMISSIONS--

c = Calculated; r = Reported; m = Measured; t = Tank

f = Federal Hap; s = State Hap; fs = Fed and State Hap

# Blue Ridge Environmental Defense League

www.BREDL.org PO Box 88 Glendale Springs, North Carolina 28629 BREDL@skybest.com (336) 982-2691

October 23, 2007

## NC Division of Air Quality Public Hearing on Draft Permit No. 09808R00

Young & McQueen Grading Co. Inc.—Spruce Pine Plant

Site No. 01/61/00107

Hot mix asphalt contains gravel and sand mixed with asphalt cement. Large volumes of hydrocarbons are released into the air as the hot asphalt is mixed, loaded into trucks and hauled from the plant site. These include volatile organic compounds, polycyclic aromatic hydrocarbons, and condensed particulates. This mixture of hydrocarbons includes naphtha which contributes to the vaporization of organic compounds at typical asphalt plant operating temperatures of 300-350 degrees F. Condensation of particulates occurs at ambient temperatures of 70 degrees F. These condensed particles carry a variety of compounds which are a danger to public health.

The draft air pollution permit proposed by the NC Division of Air Quality would allow the plant on Chalk Mountain to produce up to 225,000 tons of asphalt per year at a maximum of 160 tons per hour. If given final approval by the state, the plant would be allowed to emit the following air pollutants annually:

<b>Chronic toxicants</b>	<b>pounds</b>
carbon disulfide	682
methyl ethyl ketone	13,650
toluene	17,150
xylene	9,975
<b>Acute system toxicant</b>	
formaldehyde	617
styrene	3,780
<b>Carcinogens</b>	
benzene	64
trichloroethylene (TCE)	4,000
perchloroethylene (PCE)	13,000

*Annual totals based on production rate of 160 tons per hour for 1,406 hours per year or 175 days at 8 hours per day to produce 225,000 tons of asphalt.*

Certain pollution sources at the asphalt plant would be exempted from its state permit:  
1) an Asphalt Tank Heater burning No. 2 fuel oil at 1.6 million BTU heat input and  
2) a 10,000 gallon liquid asphalt storage tank. These units are known sources of toxic air pollution but are exempted by state statute; that is, they are listed in the permit but not included in the air pollution limits.

Asphalt plants are largely regulated as point sources of air pollution from the main smoke stack which carries emissions from the aggregate dryer through the baghouse filter. But in addition to the dryer stack, asphalt plants have many sources of fugitive emissions; i.e.,

*Printed on 100% post-consumer, recycled paper processed without chlorine using 43% less energy, 49% less water and creating 36% fewer greenhouse gas emissions than non-recycled paper.*

releases from other stacks, conveyor belts, flanges, hoppers and other equipment close to ground level. Because fugitive emissions occur close to ground level, wind velocity is reduced and air pollution is not subject to the dispersion which occurs at smokestack levels. Stagnant air conditions and inversions increase the level of exposure to the local community. The complex conditions found in the mountain ridges and valleys in Mitchell County and western North Carolina require that we use the most conservative, or worst case, methodology for predicting air pollution impacts.

The NC Division of Air Quality used a US EPA computer model SCREEN3 to derive its pollution estimates. In my analysis, I have employed a spreadsheet based on EPA SCREEN3 which calculates all emission modeling modes: point source, area source, and volume source. **Using this most conservative, worst-case calculation, we find that the point source mode is not the most conservative estimate and that the draft permit would not meet state standards for toxic air pollution (15A NCAC 2D .1104).**

For example, the NC DAQ Air Permit Review for the draft permit stipulates minimum setbacks from the asphalt plant property line for the main dryer stack of 18.29 meters (59 feet) and for the storage silos of 15 meters (49 feet) in order to comply with NC acceptable ambient levels (AALs). Oddly, this requirement is not specified in the draft permit; the omission must be corrected. But our calculations indicate that even this setback requirement will not meet AALs or provide adequate protection to the public.

At the maximum permitted production rate of 225,000 tons per year at 160 tons per hour, the Young & McQueen plant would emit 166 pounds of formaldehyde annually (0.00074 lb/ton x 225,000 tpy); it would emit 0.1315 pounds per hour (0.166 E-02 grams/second).<sup>1</sup> **The EPA worst-source computer modeling indicates that at 200 meters from the plant, NC AALs will be exceeded** (see Attachment A). Considering the emissions from the silo and load out alone (0.014 pounds of formaldehyde hourly, 1.7748 E-03 grams/second), North Carolina AALs would be exceeded near the 49 foot setback line called for by the permit review (Attachment B).

Formaldehyde is an acute irritant. Formaldehyde exposure is associated with eye, nose, and throat irritation, nausea, headaches, difficult breathing, and asthma. The U.S. EPA has classified formaldehyde as a probable human carcinogen.<sup>2</sup>

The draft permit would allow 64 pounds of benzene, a known human carcinogen, to be emitted annually. **The EPA Worst Source model predicts that the AALs would be exceeded 1.8 miles (3000 meters) from the plant (Attachment C). Arsenic, a toxic heavy metal, would exceed AALs 2.17 miles (3,500 meters) from the plant (Attachment D).**

These results are not surprising if we consider that 1,800 pounds of volatile organic compounds per year could be emitted from the proposed Young & McQueen asphalt plant.<sup>3</sup> Asphalt cement typically comprises 5% of hot mix asphalt. Fugitive air emissions equal 1.07% of the consumed asphalt cement.<sup>4</sup> The state's draft permit would allow the production of 225,000 tons of hot mix asphalt per year. If we factor these

percentages with the proposed plant output, we find the following:

$$225,000 \text{ tons hot mix} \times 0.05 = 11,250 \text{ tons/year of asphalt cement}$$

$$11,250 \times 0.0107 = 120.375 \text{ tons per year of asphalt vapor fugitive emissions}$$

The bulk of the above fugitive emissions are condensed particulates. Volatile organic compounds (VOC's) comprise about 29% of the total.<sup>4</sup> Therefore, about 35 tons of VOC and 85 tons of particulates may be emitted by a 225,000 ton/year asphalt plant as fugitive emissions. To this must be added the total emitted from the smokestack itself.

Respectfully,

A handwritten signature in black ink that reads "Louis A. Zeller". The signature is written in a cursive style and is positioned above a horizontal line.

Louis Zeller  
Clean Air Campaign Coordinator

#### References

1. US EPA Emission Factors for Organic Pollutant Emissions from Batch Mix Hot Mix Asphalt Plants, AP-42, 3/04, Table 11.1-9
2. California Air Resources Board at <http://www.arb.ca.gov/toxics/tac/factshts/formald.pdf>
3. Young & McQueen Grading Company permit application, June 22, 2007, Form B
4. Data from calculations of Dr. R.M. Nadkarni

Attachments

## Attachment A

## FORMALDEHYDE

Enter the peak emission rate of the contaminant of concern

Peak (30 min) Emission Rate =	<b>0.017</b> g/s	0.575 tons/yr
MW=	30.0261	
Concern level	0.122 ppm	149.8 ug/m3

Distance (M)	Point	Area	Volume	Worst	Recommendation
10	2.13E+02	2.85E+03	2.83E+02	<b>2.85E+03</b>	reduce emissions
100	1.22E+01	3.91E+02	1.28E+02	<b>3.91E+02</b>	reduce emissions
200	6.66E+00	1.55E+02	7.08E+01	<b>1.55E+02</b>	reduce emissions
300	4.59E+00	8.40E+01	4.56E+01	<b>8.40E+01</b>	its OK
400	3.52E+00	5.33E+01	3.21E+01	<b>5.33E+01</b>	its OK
500	2.86E+00	3.71E+01	2.40E+01	<b>3.71E+01</b>	its OK
600	2.42E+00	2.75E+01	1.92E+01	<b>2.75E+01</b>	its OK
700	2.05E+00	2.13E+01	1.56E+01	<b>2.13E+01</b>	its OK
800	1.79E+00	1.73E+01	1.30E+01	<b>1.73E+01</b>	its OK
900	1.79E+00	1.44E+01	1.11E+01	<b>1.44E+01</b>	its OK
1000	1.80E+00	1.22E+01	9.61E+00	<b>1.22E+01</b>	its OK
1100	1.77E+00	1.05E+01	8.41E+00	<b>1.05E+01</b>	its OK
1200	1.77E+00	9.21E+00	7.43E+00	<b>9.21E+00</b>	its OK
1300	1.77E+00	8.15E+00	6.63E+00	<b>8.15E+00</b>	its OK
1400	1.75E+00	7.28E+00	5.96E+00	<b>7.28E+00</b>	its OK
1500	1.73E+00	6.55E+00	5.40E+00	<b>6.55E+00</b>	its OK
1600	1.70E+00	5.93E+00	4.92E+00	<b>5.93E+00</b>	its OK
1700	1.67E+00	5.41E+00	4.51E+00	<b>5.41E+00</b>	its OK
1800	1.63E+00	4.95E+00	4.15E+00	<b>4.95E+00</b>	its OK
1900	1.59E+00	4.56E+00	3.83E+00	<b>4.56E+00</b>	its OK
2000	1.55E+00	4.22E+00	3.60E+00	<b>4.22E+00</b>	its OK
2100	1.50E+00	3.93E+00	3.37E+00	<b>3.93E+00</b>	its OK
2200	1.46E+00	3.68E+00	3.15E+00	<b>3.68E+00</b>	its OK
2300	1.42E+00	3.45E+00	2.96E+00	<b>3.45E+00</b>	its OK
2400	1.38E+00	3.24E+00	2.79E+00	<b>3.24E+00</b>	its OK
2500	1.34E+00	3.06E+00	2.64E+00	<b>3.06E+00</b>	its OK
2600	1.30E+00	2.89E+00	2.50E+00	<b>2.89E+00</b>	its OK
2700	1.26E+00	2.73E+00	2.37E+00	<b>2.73E+00</b>	its OK
2800	1.23E+00	2.59E+00	2.25E+00	<b>2.59E+00</b>	its OK
2900	1.19E+00	2.47E+00	2.14E+00	<b>2.47E+00</b>	its OK
3000	1.16E+00	2.35E+00	2.05E+00	<b>2.35E+00</b>	its OK
3500	1.01E+00	1.90E+00	1.67E+00	<b>1.90E+00</b>	its OK
4000	8.94E-01	1.59E+00	1.40E+00	<b>1.59E+00</b>	its OK
4500	7.97E-01	1.35E+00	1.19E+00	<b>1.35E+00</b>	its OK
5000	7.17E-01	1.17E+00	1.04E+00	<b>1.17E+00</b>	its OK
5500	6.50E-01	1.03E+00	9.11E-01	<b>1.03E+00</b>	its OK
6000	5.93E-01	9.13E-01	8.11E-01	<b>9.13E-01</b>	its OK
6500	5.44E-01	8.19E-01	7.28E-01	<b>8.19E-01</b>	its OK
7000	5.02E-01	7.41E-01	6.60E-01	<b>7.41E-01</b>	its OK

## Attachment B

FORMALDEHYDE  
Silo+L-O

Enter the peak emission rate of the contaminant of concern

Peak (30 min) Emission Rate =	<b>0.0017748</b>	g/s	0.062	tons/yr
MW=	30.0261			
Concern level	0.122	ppm	149.8	ug/m3

Distance (M)	Point	Area	Volume	Worst	Recommendat
10	2.28E+01	3.05E+02	3.03E+01	<b>3.05E+02</b>	reduce emissions
100	1.31E+00	4.19E+01	1.37E+01	<b>4.19E+01</b>	its OK
200	7.14E-01	1.66E+01	7.58E+00	<b>1.66E+01</b>	its OK
300	4.91E-01	9.00E+00	4.88E+00	<b>9.00E+00</b>	its OK
400	3.77E-01	5.70E+00	3.44E+00	<b>5.70E+00</b>	its OK
500	3.07E-01	3.97E+00	2.57E+00	<b>3.97E+00</b>	its OK
600	2.59E-01	2.95E+00	2.06E+00	<b>2.95E+00</b>	its OK
700	2.20E-01	2.28E+00	1.67E+00	<b>2.28E+00</b>	its OK
800	1.91E-01	1.85E+00	1.39E+00	<b>1.85E+00</b>	its OK
900	1.92E-01	1.54E+00	1.19E+00	<b>1.54E+00</b>	its OK
1000	1.93E-01	1.30E+00	1.03E+00	<b>1.30E+00</b>	its OK
1100	1.90E-01	1.13E+00	9.00E-01	<b>1.13E+00</b>	its OK
1200	1.90E-01	9.87E-01	7.96E-01	<b>9.87E-01</b>	its OK
1300	1.90E-01	8.73E-01	7.10E-01	<b>8.73E-01</b>	its OK
1400	1.88E-01	7.80E-01	6.39E-01	<b>7.80E-01</b>	its OK
1500	1.85E-01	7.02E-01	5.79E-01	<b>7.02E-01</b>	its OK
1600	1.82E-01	6.36E-01	5.27E-01	<b>6.36E-01</b>	its OK
1700	1.79E-01	5.79E-01	4.83E-01	<b>5.79E-01</b>	its OK
1800	1.75E-01	5.31E-01	4.44E-01	<b>5.31E-01</b>	its OK
1900	1.70E-01	4.89E-01	4.11E-01	<b>4.89E-01</b>	its OK
2000	1.66E-01	4.52E-01	3.86E-01	<b>4.52E-01</b>	its OK
2100	1.61E-01	4.21E-01	3.60E-01	<b>4.21E-01</b>	its OK
2200	1.56E-01	3.94E-01	3.38E-01	<b>3.94E-01</b>	its OK
2300	1.52E-01	3.69E-01	3.18E-01	<b>3.69E-01</b>	its OK
2400	1.47E-01	3.47E-01	2.99E-01	<b>3.47E-01</b>	its OK
2500	1.43E-01	3.27E-01	2.83E-01	<b>3.27E-01</b>	its OK
2600	1.39E-01	3.09E-01	2.67E-01	<b>3.09E-01</b>	its OK
2700	1.35E-01	2.93E-01	2.54E-01	<b>2.93E-01</b>	its OK
2800	1.31E-01	2.78E-01	2.41E-01	<b>2.78E-01</b>	its OK
2900	1.28E-01	2.64E-01	2.29E-01	<b>2.64E-01</b>	its OK
3000	1.24E-01	2.51E-01	2.20E-01	<b>2.51E-01</b>	its OK
3500	1.08E-01	2.04E-01	1.79E-01	<b>2.04E-01</b>	its OK
4000	9.57E-02	1.70E-01	1.50E-01	<b>1.70E-01</b>	its OK
4500	8.54E-02	1.45E-01	1.28E-01	<b>1.45E-01</b>	its OK
5000	7.68E-02	1.25E-01	1.11E-01	<b>1.25E-01</b>	its OK
5500	6.96E-02	1.10E-01	9.76E-02	<b>1.10E-01</b>	its OK
6000	6.35E-02	9.78E-02	8.69E-02	<b>9.78E-02</b>	its OK
6500	5.82E-02	8.77E-02	7.80E-02	<b>8.77E-02</b>	its OK
7000	5.37E-02	7.93E-02	7.07E-02	<b>7.93E-02</b>	its OK
7500	4.98E-02	7.25E-02	6.46E-02	<b>7.25E-02</b>	its OK



## Attachment C

## BENZENE

Enter the peak emission rate of the contaminant of concern

Peak (30 min) Emission Rate =	<b>0.0009</b> g/s	0.032 tons/yr
MW=	78.1124	
Concern level	0.000038 ppm	0.121 ug/m3

Distance (M)	Point	Area	Volume	Worst	Recommendation
10	1.18E+01	1.58E+02	1.57E+01	1.58E+02	reduce emissions
100	6.78E-01	2.17E+01	7.08E+00	2.17E+01	reduce emissions
200	3.70E-01	8.60E+00	3.93E+00	8.60E+00	reduce emissions
300	2.55E-01	4.67E+00	2.53E+00	4.67E+00	reduce emissions
400	1.96E-01	2.96E+00	1.78E+00	2.96E+00	reduce emissions
500	1.59E-01	2.06E+00	1.33E+00	2.06E+00	reduce emissions
600	1.35E-01	1.53E+00	1.07E+00	1.53E+00	reduce emissions
700	1.14E-01	1.18E+00	8.67E-01	1.18E+00	reduce emissions
800	9.92E-02	9.60E-01	7.21E-01	9.60E-01	reduce emissions
900	9.95E-02	7.98E-01	6.18E-01	7.98E-01	reduce emissions
1000	9.98E-02	6.76E-01	5.34E-01	6.76E-01	reduce emissions
1100	9.83E-02	5.84E-01	4.67E-01	5.84E-01	reduce emissions
1200	9.84E-02	5.12E-01	4.13E-01	5.12E-01	reduce emissions
1300	9.83E-02	4.53E-01	3.68E-01	4.53E-01	reduce emissions
1400	9.74E-02	4.04E-01	3.31E-01	4.04E-01	reduce emissions
1500	9.61E-02	3.64E-01	3.00E-01	3.64E-01	reduce emissions
1600	9.45E-02	3.29E-01	2.73E-01	3.29E-01	reduce emissions
1700	9.26E-02	3.00E-01	2.50E-01	3.00E-01	reduce emissions
1800	9.05E-02	2.75E-01	2.30E-01	2.75E-01	reduce emissions
1900	8.83E-02	2.53E-01	2.13E-01	2.53E-01	reduce emissions
2000	8.60E-02	2.34E-01	2.00E-01	2.34E-01	reduce emissions
2100	8.35E-02	2.18E-01	1.87E-01	2.18E-01	reduce emissions
2200	8.11E-02	2.04E-01	1.75E-01	2.04E-01	reduce emissions
2300	7.87E-02	1.91E-01	1.65E-01	1.91E-01	reduce emissions
2400	7.65E-02	1.80E-01	1.55E-01	1.80E-01	reduce emissions
2500	7.42E-02	1.70E-01	1.46E-01	1.70E-01	reduce emissions
2600	7.21E-02	1.60E-01	1.39E-01	1.60E-01	reduce emissions
2700	7.00E-02	1.52E-01	1.31E-01	1.52E-01	reduce emissions
2800	6.81E-02	1.44E-01	1.25E-01	1.44E-01	reduce emissions
2900	6.62E-02	1.37E-01	1.19E-01	1.37E-01	reduce emissions
3000	6.43E-02	1.30E-01	1.14E-01	1.30E-01	reduce emissions
3500	5.62E-02	1.06E-01	9.27E-02	1.06E-01	its OK
4000	4.96E-02	8.80E-02	7.76E-02	8.80E-02	its OK
4500	4.43E-02	7.50E-02	6.62E-02	7.50E-02	its OK
5000	3.98E-02	6.50E-02	5.75E-02	6.50E-02	its OK
5500	3.61E-02	5.71E-02	5.06E-02	5.71E-02	its OK
6000	3.29E-02	5.07E-02	4.50E-02	5.07E-02	its OK
6500	3.02E-02	4.55E-02	4.04E-02	4.55E-02	its OK
7000	2.78E-02	4.11E-02	3.66E-02	4.11E-02	its OK
7500	2.58E-02	3.76E-02	3.35E-02	3.76E-02	its OK

## Attachment D

ARSENIC

Enter the peak emission rate of the contaminant of concern

Peak (30 min) Emission Rate =	<b>0.00000227</b> g/s	8E-05 tons/yr
MW=	74.9216	
Concern level	0.00000075 ppm	2E-04 ug/m3

Distance (M)	Point	Area	Volume	Worst	Recommendation
10	2.91E-02	3.90E-01	3.88E-02	3.90E-01	reduce emissions
100	1.67E-03	5.36E-02	1.75E-02	5.36E-02	reduce emissions
200	9.13E-04	2.12E-02	9.70E-03	2.12E-02	reduce emissions
300	6.28E-04	1.15E-02	6.25E-03	1.15E-02	reduce emissions
400	4.83E-04	7.30E-03	4.40E-03	7.30E-03	reduce emissions
500	3.92E-04	5.08E-03	3.28E-03	5.08E-03	reduce emissions
600	3.32E-04	3.77E-03	2.64E-03	3.77E-03	reduce emissions
700	2.81E-04	2.92E-03	2.14E-03	2.92E-03	reduce emissions
800	2.45E-04	2.37E-03	1.78E-03	2.37E-03	reduce emissions
900	2.46E-04	1.97E-03	1.52E-03	1.97E-03	reduce emissions
1000	2.46E-04	1.67E-03	1.32E-03	1.67E-03	reduce emissions
1100	2.43E-04	1.44E-03	1.15E-03	1.44E-03	reduce emissions
1200	2.43E-04	1.26E-03	1.02E-03	1.26E-03	reduce emissions
1300	2.42E-04	1.12E-03	9.09E-04	1.12E-03	reduce emissions
1400	2.40E-04	9.97E-04	8.17E-04	9.97E-04	reduce emissions
1500	2.37E-04	8.97E-04	7.40E-04	8.97E-04	reduce emissions
1600	2.33E-04	8.13E-04	6.74E-04	8.13E-04	reduce emissions
1700	2.28E-04	7.41E-04	6.17E-04	7.41E-04	reduce emissions
1800	2.23E-04	6.79E-04	5.68E-04	6.79E-04	reduce emissions
1900	2.18E-04	6.25E-04	5.25E-04	6.25E-04	reduce emissions
2000	2.12E-04	5.78E-04	4.93E-04	5.78E-04	reduce emissions
2100	2.06E-04	5.38E-04	4.61E-04	5.38E-04	reduce emissions
2200	2.00E-04	5.03E-04	4.32E-04	5.03E-04	reduce emissions
2300	1.94E-04	4.72E-04	4.06E-04	4.72E-04	reduce emissions
2400	1.89E-04	4.44E-04	3.82E-04	4.44E-04	reduce emissions
2500	1.83E-04	4.19E-04	3.61E-04	4.19E-04	reduce emissions
2600	1.78E-04	3.95E-04	3.42E-04	3.95E-04	reduce emissions
2700	1.73E-04	3.75E-04	3.24E-04	3.75E-04	reduce emissions
2800	1.68E-04	3.55E-04	3.08E-04	3.55E-04	reduce emissions
2900	1.63E-04	3.38E-04	2.93E-04	3.38E-04	reduce emissions
3000	1.59E-04	3.22E-04	2.81E-04	3.22E-04	reduce emissions
3500	1.39E-04	2.61E-04	2.29E-04	2.61E-04	reduce emissions
4000	1.22E-04	2.17E-04	1.91E-04	2.17E-04	its OK
4500	1.09E-04	1.85E-04	1.63E-04	1.85E-04	its OK
5000	9.82E-05	1.60E-04	1.42E-04	1.60E-04	its OK
5500	8.90E-05	1.41E-04	1.25E-04	1.41E-04	its OK
6000	8.12E-05	1.25E-04	1.11E-04	1.25E-04	its OK

# Asphalt Plants



**FactPack – P131**



Center for Health, Environment & Justice  
P.O. Box 6806, Falls Church, VA 22040-6806  
703-237-2249 [chej@chej.org](mailto:chej@chej.org) [www.chej.org](http://www.chej.org)

# Asphalt Plants

Center for Health, Environment & Justice  
FactPack - PUB 131

August 2016



Copyright 2015 by Center for Health,  
Environment & Justice. All rights  
reserved. For Permission to reprint, please  
contact CHEJ. Printed in the U.S.A.



## Center for Health, Environment & Justice

P.O. Box 6806 • Falls Church, VA 22040 • Phone: 703.237.2249 • Fax: 703.237.8389 • [www.chej.org](http://www.chej.org)

**Mentoring a Movement**

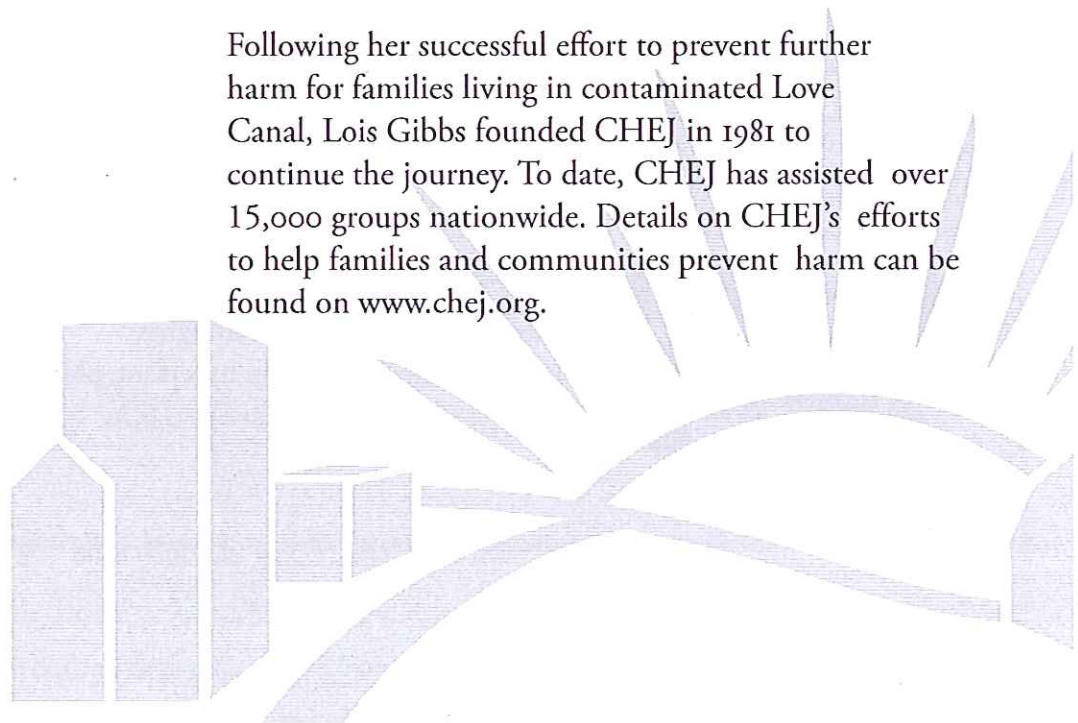
**Empowering People**

**Preventing Harm**

### **About the Center for Health, Environment & Justice**

CHEJ mentors a movement building healthier communities by empowering people to prevent harm caused by chemical and toxic threats. We accomplish our work through programs focusing on different types of environmental health threats. CHEJ also works with communities to empower groups by providing the tools, direction, and encouragement they need to advocate for human health, to prevent harm and to work towards environmental integrity.

Following her successful effort to prevent further harm for families living in contaminated Love Canal, Lois Gibbs founded CHEJ in 1981 to continue the journey. To date, CHEJ has assisted over 15,000 groups nationwide. Details on CHEJ's efforts to help families and communities prevent harm can be found on [www.chej.org](http://www.chej.org).



## Table of Contents

(page numbers are listed in upper right hand corner)

### Introduction to Asphalt Production

Asphalt Plant Production – <i>BE SAFE Campaign</i>	1
Asphalt Plants: Frequently Asked Questions – <i>North Carolina Department of Environment and Natural Resources, Air Quality Division</i>	5
Asphalt – <i>Concise Encyclopedia of Chemical Technology (Evans, J.)</i>	7
Asphalt Plant Emissions: What are the Issues during Site Selection? – <i>Massachusetts Association of Health Boards Quarterly</i>	10
Hot Mix Asphalt Plants Emissions Assessment Report – <i>US EPA</i>	12
Compilation of Air Pollutant Emission Factors: Hot Mix Asphalt Plants – <i>US EPA</i>	28
Proposed Revision to AP -42, 11.1 Hot Mix Asphalt Plants – <i>US EPA</i>	57

### Asphalt Fumes

Studies Document Negative Impacts from Asphalt Plants – <i>Blue Ridge Environmental Defense League</i>	58
Asphalt Plant Fugitive Air Emissions: A Public Health Hazard – <i>Blue Ridge Environmental Defense League</i>	59
Asphalt Plant versus Wood Stove Pollution – <i>Blue Ridge Environmental defense League</i>	60
Health Effects of Occupational Exposure to Asphalt – <i>National Institute of Occupational Safety and Health</i>	62
Asphalt Fumes – <i>Handbook of Toxic and Hazardous Chemicals and Carcinogens</i>	72
Exposure to Bitumen Fumes and Genotoxic Effects on Turkish Asphalt Workers – <i>Clinical Toxicology</i>	74
Studies of Carcinogenicity of Bitumen Fume in Humans – <i>American Journal of Industrial Medicine</i>	75
Acute Symptoms Associated with Asphalt Fume Exposure Among Road Pavers – <i>American Journal of Industrial Medicine</i>	76
Toxic Health Effects Including Reversible Macrothrombocytosis in Workers Exposed to Asphalt Fumes – <i>American Journal of Industrial Medicine</i>	77
Literature Review of Health Effects Caused by Occupational Exposure to Asphalt Fumes – <i>National Toxicology Program, Department of Health and Health Services</i>	78
Carcinoma of the Pharynx and Tonsils in an Occupational Cohort of Asphalt workers – <i>Zanardi ~ Epidemiology</i>	87
Cancer Risk in Asphalt Workers and Roofers: Review and Meta-Analysis of Epidemiologic Studies – <i>American Journal of Industrial Medicine</i>	91
Risk of Cancer/Illness from Asphalt – <i>Kunda Park Neighbours</i>	92
Asphalt Plant, and its Pollution Potential, Part of Quarry Deal – <i>The Pottstown Mercury</i>	94

Groups Charge Maymead with Intentional Violations – <i>Blue Ridge Environmental Defense League Website – Calgary for Clean Air</i>	98
	100
<b>Health Impacts</b>	
PAHs Underfoot: Contaminated Dust from Coal-Tar Sealcoated Pavement is Widespread in the United States – <i>U.S. Geological Survey</i>	104
Increased Suicide Rate is Possibly Linked to Chemicals Released from nearby Asphalt Plants, Study Suggests – <i>UNC School of Medicine</i>	105
Asphalt Pollution Probe Extends – <i>Recycling Today</i>	
Carcinogens Discovered Near Maymead Plant – <i>Blue Ridge Environmental Defense League</i>	108
Childhood Brain Cancers Near Asphalt Industry in Salisbury, North Carolina – <i>Dr. Richard Weisler</i>	109
Cancer Risk From Incidental Ingestion Exposures to PAHs - <i>Environmental Science &amp; Technology</i>	113
Respiratory Symptoms with Asphalt Fumes - <i>International Journal of Occupational and Environmental Medicine</i>	123
Childhood Cancer and Pollution – <i>Rachel's Environmental and Health News</i>	131
Asphalt Plants: Contaminants of Concern – <i>Blue Ridge Environmental Defense League</i>	133
	133
<b>News Items</b>	
Asphalt Plant Would Expose Children to Toxins – <i>Petaluma 360</i>	137
Indians Appeal Asphalt Plant – <i>Mendocino Country Environmentalist</i>	139
Group Opposes Asphalt Plant: The Plant would be about Half Mile from Colfax Elementary School – <i>News and Record (Greensboro, NC)</i>	141
Mountain Air Action Project Asphalt Plant Report – <i>Blue Ridge Environmental Defense Fund</i>	143
APAC: Polluting Without Boundaries – <i>Blue Ridge Environmental Defense Fund Paving the Way: Behind-the-Scenes Lobbying Allows Big-Money Interests like the Asphalt Industry to Steamroll Citizens – The Independent Weekly (Durham, NC)</i>	151
	160
<b>Resource Alternatives</b>	
Coal Tar-Containing Asphalt Resource or Hazardous Waste? – <i>Journal of Industrial Ecology</i>	171
Green Asphalt and Concrete: Eco Friendly Streets – <i>EcoFuss</i>	172