DUFFIELD ASSOCIATES
Soil, Water & the Environment

FUGITIVE DUST CONTROL PLAN

Walan Specialty Construction Products, LLC.

Granulated Blast Furnace Slag Grinding Facility
501 Christina Avenue
Wilmington, DE 19801

Revised November 19, 2018

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Project No. 8850.ED

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1.0 INTRODUCTION

This Fugitive Dust Control Plan (the "Plan") has been prepared for use at the WALAN Specialty Construction Products, LLC. (WALAN) Granulated Blast Furnace Slag Grinding Facility (GBFS Grinding Facility or Facility), to be located at 501 Christina Avenue Wilmington, Delaware 19801. A few outdoor activities at the Facility will have potential to generate fugitive dust emissions, since most of the operations at the Facility are enclosed and dust (particulate matter) is controlled by air pollution control devices. The Plan describes the GBFS Grinding Facility operations and the associated dust management practices that will be implemented to prevent and/or control potential fugitive particulate emissions.

The Plan includes the following:

- Potential sources of fugitive dust,
- Management procedures that are used to minimize fugitive dust emissions,
- Use of a visual inspection program to monitor material handling areas and process equipment,
- Procedures for the implementation of corrective action measures to be taken in the event of excessive fugitive dust emissions, and
- A list of sources and areas to be monitored for visible emissions and accumulation of material in open areas.

2.0 GENERAL OVERVIEW OF OPERATIONS

Provided below is a general overview of the GBFS Grinding Facility operations as well as onsite features and equipment that are relevant to this Fugitive Dust Control Plan.

2.1 Facility Description

The GBFS Grinding Facility will be located at 501 Christina Avenue, Wilmington, Delaware. The Facility will be constructed and will be operated at the rear of the property, behind an existing warehouse and adjacent to Christina River. The Facility is located in area zoned for waterfront manufacturing, which is appropriate for the intended use. The Facility will be approximately 0.7 miles north of the Port of Wilmington, where GBFS will be imported for delivery to the Facility. Access to Interstate 495 is close by, which initially will be the principal transportation route taken by trucks delivering finished product to customers. The Facility is also located adjacent to a freight railroad, which may be utilized in the future for finished product delivery to customers.

A Site Location Map is included as Figure 1 that shows the general area where the Facility is located. In addition, a Facility Site Plan is included as Figure 2. The Facility Site Plan depicts the location of Facility operating areas including the GBFS stockpile, feed hopper, grinding operation, storage silos and loadout area.

The onsite roadways shown on the Facility Site Plan are utilized for truck traffic.

2.2 Description of Operations

Trucks will transport GBFS material to the Facility from ships unloaded at the Port of Wilmington. The GBFS is anticipated to arrive with moisture contents ranging from approximately 8 to10 percent (%). The GBFS received will be stockpiled and then placed in the feed hopper servicing the grinding operation. The GBFS will be conveyed to a bucket elevator and then fed to the grinder which will grind and dry the GBFS.

Once processed through the grinder, the ground GBFS (GGBFS) will be conveyed via a bucket elevator to two 1,100 ton silos for storage and eventual loading into enclosed hopper trucks via loadout chutes. PM emissions will be controlled by cartridge filters which are used to capture dust displaced from the enclosed trucks. The truck loadout area under the silos will be enclosed to help prevent fugitive dust from escaping to the atmosphere.

As shown in Figure 2, truck traffic will enter the Facility on the northern end of the property. The delivery trucks will proceed to the stockpile areas and deposit GBFS. Trucks arriving at the site to receive finished product will also enter at the northern end and proceed to the silo storage area for loadout. All trucks will exit the property from the northern end.

The level of production at the Facility will be seasonal, with more demand for product occurring during spring, summer and fall than during the winter months, leading to an anticipated lower level of operation in the winter months. The Facility is expected to increase production over years of operation and is anticipated to process up to 150,000 tons of GBFS per year at full operation. A process flow diagram that summarizes the process and highlights points of emissions is shown in Figure 3.

3.0 DUST EMISSIONS SOURCES/FACTORS

Potential dust emission sources and the factors that can influence dust emissions at the Facility are presented in this section. Sources of dust primarily are limited to outdoor emissions. Outdoor fugitive dust emissions are defined as those emissions occurring outside the buildings and not associated with a stack (point) discharge. The potential dust emission sources and factors that are addressed for this Facility include:

- On-site roadways (when vehicles are moving on them),
- Unloading of delivery trucks
- GBFS Stockpile (drying of material and wind)
- GBFS transfers from stockpile to feed hopper (height of drop and dry material)
- Truck loading tunnels located beneath each of the two silos

3.1 On-site Roadways

The on-site roadways will consist of both paved and unpaved areas. Paved and unpaved roadways can generate fugitive dust from vehicle traffic that disturbs fine particulate matter deposited on the paved surface, causing the particles to become airborne. Sources of potential dust from paved and unpaved surfaces at the Facility include: (1) tracking of mud and dirt from unpaved surfaces; (2) spillage of GBFS onto the road surfaces; and (3) deposition of dust from other sources, on- and off-site. Sources of dust from paved and unpaved surfaces are mainly due to truck traffic and equipment movement. Dust generation will be influenced by the number of trucks entering and exiting the Facility and the truck travel speed.

Due to the highly industrialized location of the Facility and paved public roads at the entrance to the Facility, it is expected that the trucks entering the Facility will not be tracking soil onto the site. Additionally, the GBFS Grinding Facility's interior traffic management controls are intended to minimize the truck and equipment cross traffic and avoid drag-out from areas where GBFS is stored and loaded.

3.2 Unloading of Transport Trucks

As mentioned above, GBFS will be transported from the Port of Wilmington to the GBFS stockpile area. There is a potential for the creation of fugitive dust when the trucks dump the GBFS onto the stockpile. The amount of fugitive dust that may be generated depends upon the particle sizes of the delivered GBFS, the moisture content of the GBFS, and weather conditions.

3.3 GBFS Stockpile

Windblown dust can be generated from stockpiled material which is dependent upon the particle size of the stockpiled GBFS and moisture content of the material. The amount of time when the stockpile is being disturbed, either during loading or unloading, will also influence windblown dust generation.

3.4 Feed Hopper/Conveyor/Transfer System

Dust may be generated when a front end loader is used to load GBFS into a hopper that feeds the grinding/drying mill because the material is being dropped a short distance. The conveyor and bucket elevator used to feed the material to the grinding/drying mill will be enclosed and will not generate fugitive dust.

3.5 Weather Conditions

Variables that influence dust emissions include, but may not be limited to, weather conditions. Dry, windy conditions would tend to increase the potential for dust emissions from potential fugitive emission sources.

3.6 Moisture Content of the GBFS and Particle Size

The moisture content of the GBFS is a significant factor that could affect fugitive dust emissions at the Facility. The lower the moisture content of the GBFS, the more likely it will be to generate dust. To minimize the potential for fugitive dust emissions, GBFS will be received at the Facility with a moisture content of 8% to 10%. The moisture in the GBFS creates surface tension between particles causing them to attract to one another, essentially "clumping up". This condition reduces the potential for fugitive dust generation. Due to the moisture content being 8% to 10% and the particle size of the GBFS being greater than 200 microns, there is a limited potential for the creation of fugitive dust during the handling and stockpiling.

3.7 Truck Tunnels under Silos

Dustless loading systems and closed hopper trailers will be used to control dust generation as GGBFS is transferred from the storage silos to the truck trailers. However, there is potential that wind blowing through the loading tunnels could generate dust.

4.0 FUGITIVE DUST CONTROL MEASURES

The GBFS Grinding Facility will employ various fugitive dust control measures to control the generation and dispersion of fugitive dust from the Facility. Facility personnel will monitor weather conditions and site operations for conditions that could lead to fugitive dust generation. The potential for fugitive dust emissions can vary based on humidity, air and ground temperatures, and wind direction and speed while site operations, as discussed above, have the potential to increase the risk of fugitive dust emissions by disturbing materials on road surfaces or disturbing the GBFS stockpile.

The following practices will be employed by the GBFS Grinding Facility to minimize dust emissions:

4.1 Unloading of Transport Trucks

Fugitive dust emissions will be controlled during the unloading and stockpiling of GBFS. The material will have a moisture content of approximately 8% to 10% which will reduce the potential for fugitive dust emissions. The unloading and stockpile will be visually monitored daily for any signs of drying and dust release.

4.2 Stockpile Practices

After the stockpile of GBFS is created, the pile will be covered by weighted tarps to help maintain the moisture content of the pile and to reduce the surface area where wind could mobilize GBFS. While material is being added or removed, tarping will be removed from the working face of the stockpile. During those periods, the stockpile will be monitored visually for signs of drying and dust generation. If necessary to inhibit visible dust emissions, site personnel will add water to the working face of the stockpiled material to reduce the potential for fugitive dust emissions.

4.3 Feed Hopper and Conveying System

The movement and deposition of stockpiled GBFS in the feed hopper could be a source of fugitive emissions. To mitigate fugitive dust generation, the GBFS will be kept moist. Keeping the GBFS moist reduces the potential for fugitive dust emissions. Facility personnel will monitor the loading and conveying process. If visible dust generation is apparent, the water will be added to the stockpile to moisten the GBFS. In addition, the drop height when GBFS is deposited into the feed hopper will be kept to a minimum to minimize spillage of material and decrease the potential for dust release due to physical disturbances.

4.4 Silo Tunnels

Overlapping vertical strips (curtains) will be hung at the entrance and exit of the two silo tunnels where truck trailers are loaded with GGBFS. The strips will dampen wind velocities through the tunnels and help suppress the potential for dust generation in the tunnels.

4.4 Roadway Emissions

The following measures will be employed to control the fugitive dust from Facility roadways:

- The beds of all delivery trucks entering and exiting the Facility will be tarped to reduce the generation of fugitive dust from the trucks and to limit the potential for unintended spillage of material on public and Facility roads.
- Truck traffic will be limited to paved road surfaces. A typical traffic pattern is illustrated in Figure 2.
- The Facility roadways will be cleaned on an as needed basis, using a street sweeper to remove materials that might become fugitive dust.
- Facility-wide vehicle speed limits will be enforced to reduce the potential for fugitive dust generation.

4.5 Preventative Maintenance Program

All equipment will be inspected and maintained to ensure proper system performance. Facility operations and equipment will be inspected visually on a daily basis.

4.6 Best Management Practices

Best management practices will be followed as a preventive measure to minimize the potential for creating fugitive dust. These practices includes good housekeeping. Good housekeeping is essentially the maintenance of a clean and orderly work environment which reduces the possibility of accidents and dust emissions.

Elements of good housekeeping practices include:

- Maintaining neat and orderly work areas, both indoors and outdoors;
- Maintaining neat and orderly storage of materials;
- Cleaning-up spilled GBFS promptly;
- Using a street sweeper on an as needed basis to remove materials that may become dust from paved roads; and
- Providing training to employees about good housekeeping practices.

4.7 Employee Training

Employee training will be provided to all GBFS Grinding Facility operations personnel. Training will consist of a review of Facility procedures and operations, including review of this Plan, instruction on the proper use of fugitive dust control measures at the site, and a review of the relevant procedures following adoption of any new control measures, when needed. Training will be conducted on an annual basis and as needed when Facility procedures and operations are changed. If problematic incidents occur, or occur with increasing frequency, training will be provided more frequently to better inform and prepare Facility personnel.

The objective of the training is to ensure that the Facility is under constant observation by knowledgeable personnel. Employees will be trained to inspect and identify conditions that could lead to fugitive dust emissions and be able to implement correct procedures to mitigate those conditions when necessary.

4.8 Routine Inspection Programs

Daily inspections will be conducted to identify conditions that could lead to fugitive dust emissions and potential dust generating activities as part of the regular inspection program for the Facility on operating days. Results of the inspections will be documented on a daily record keeping report form and will be made

available to the Delaware Department of Natural Resources and Environmental Control (DNREC) upon request.

5.0 RECORDKEEPING

A copy of this Fugitive Dust Control Plan will be maintained at the Facility at all times. Completed daily record keeping report forms will be maintained at the Facility for a minimum of five years and will be made available to DNREC personnel upon request as discussed above.

6.0 PLAN REVIEW

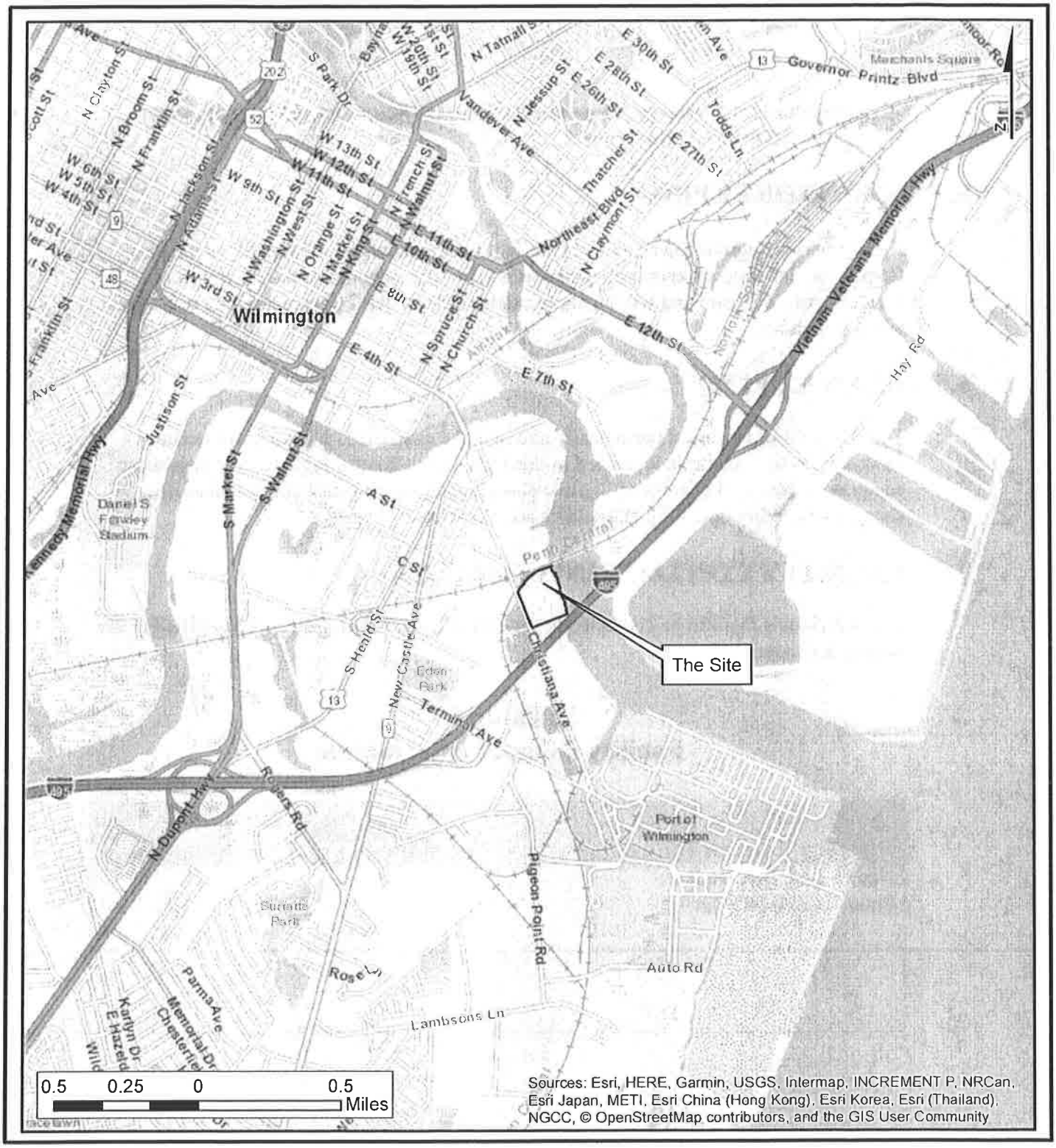
The Plan will be reviewed periodically and updated as needed. Updates will occur at a minimum, when: controls identified in this Plan do not control fugitive dust generation adequately, potential sources of fugitive dust change, fugitive dust control measures change, or Facility operating procedures are modified or revised.

7.0 FACILITY CONTACT INFORMATION

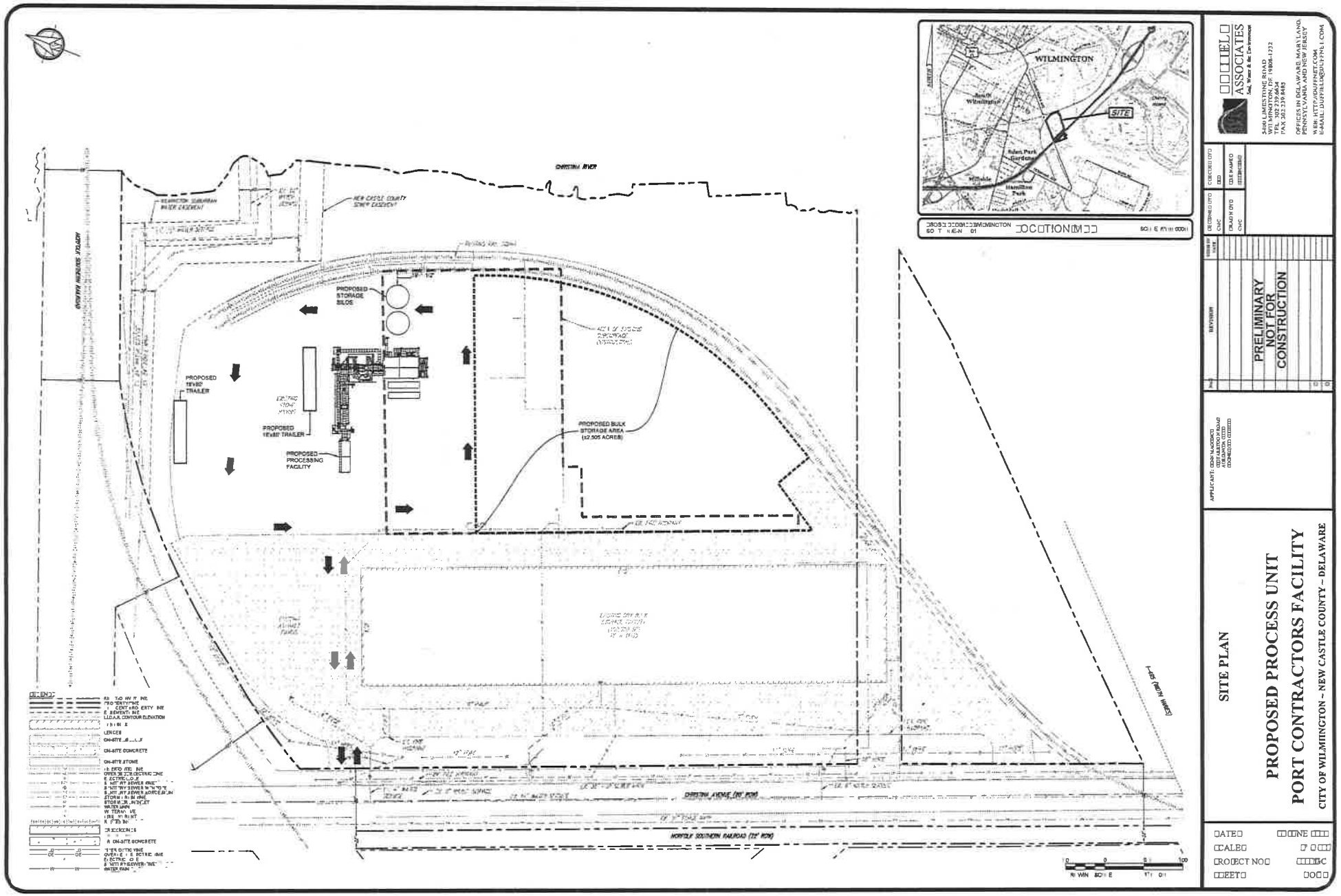
The individuals that can be contacted in the event fugitive dust issues are identified at the facility are listed in Table 1.

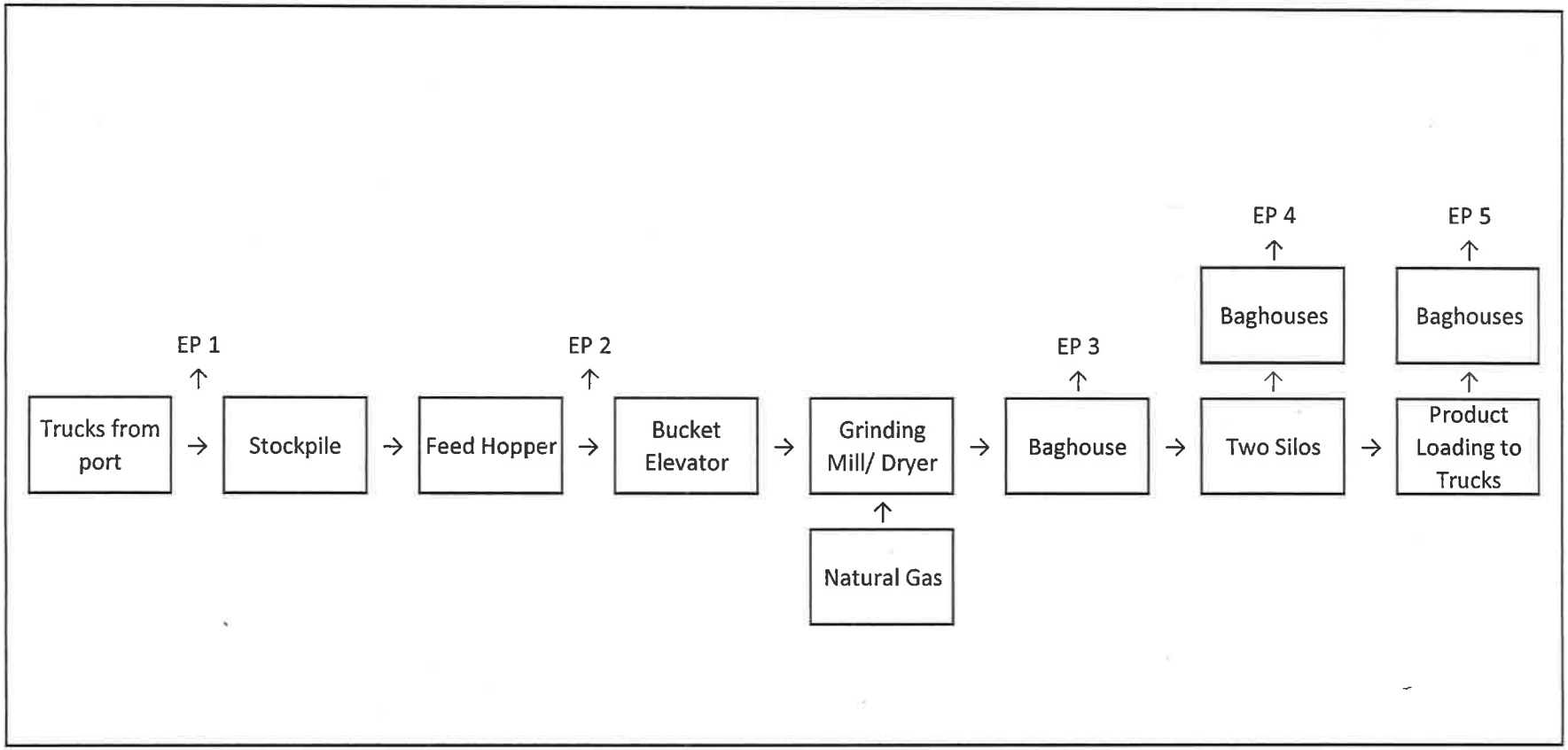
Table 1
Facility Contact Information

Primary Contact Information	Secondary Contact Information
Name: Lisa Dharwadkar Phone: (724) 545-2300	



Date: 10/2018	**Site Location Map**	DESIGNED BY: BNM	DUFFIELD ASSOCIATES Soil, Water & the Environment
SCALE: AS SHOWN		DRAWN BY: CSP	5400 LIMESTONE ROAD WILMINGTON, DE 19808-1232 TEL. (302)239-6634 FAX (302)239-8485
PROJECT NO. 8850.ED		CHECKED BY: MRB	OFFICES IN PENNSYLVANIA, SOUTHERN DELAWARE, MARYLAND AND NEW JERSEY
FIGURE 1		FILE: 8850.ED.mxd	EMAIL: DUFFIELD@DUFFNET.COM


CHRISTINA RIVER
NEW CASTLE COUNTY SEWER EASEMENT
PROPOSED STORAGE SILOS
PROPOSED TEMPO TRAILER
PROPOSED TEMPO TRAILER
PROPOSED PROCESSING FACILITY
PROPOSED BULK STORAGE AREA (±2.505 ACRES)
CHRISTINA AVENUE (80' ROW)
NORFOLK SOUTHERN RAILROAD (70' ROW)
WILMINGTON
SITE
PRELIMINARY NOT FOR CONSTRUCTION
SITE PLAN
PROPOSED PROCESS UNIT
PORT CONTRACTORS FACILITY
CITY OF WILMINGTON – NEW CASTLE COUNTY – DELAWARE



DATE: 10/2018	**Process Flow Diagram**	DRAWN BY: BNM	DUFFIELD ASSOCIATES Soil, Water & the Environment
PROJECT NO: 8850.ED	Walan Specialty Construction Products, LLC	CHECKED BY: MRB	5400 LIMESTONE ROAD WILMINGTON, DE 19808-1232 TEL. (302)239-6634 FAX (302)239-8485
SHEET: FIGURE 2	Wilmington~Delaware	FILE: 8850.ED.Process_Flow_Diagram.xlxs	OFFICES IN PENNSYLVANIA, SOUTHERN DELAWARE, MARYLAND AND NEW JERSEY *EMAIL: DUFFIELD@DUFFNET.COM*