



**SITE SPECIFIC DUST CONTROL PLAN
FOR
PROPOSED SITE - SUPERIOR CONCRETE MATERIALS, INC.
1721 SOUTH CAPITOL STREET, SW
WASHINGTON, DISTRICT OF COLUMBIA 20003**

ECS PROJECT NO. 47:4827

FOR:

**SUPERIOR CONCRETE MATERIALS, INC.
1601 SOUTH CAPITOL STREET, SW
WASHINGTON, DISTRICT OF COLUMBIA 20003**

OCTOBER 13, 2017



October 13, 2017

Mr. Roberto Talavera
Superior Concrete Materials, Inc.
1601 South Capitol Street, SW
Washington, DC 20003

ECS Project No. 47:4827

Reference: Site Specific Dust Control Plan
Superior Concrete Materials, Inc.
1721 South Capitol Street, SW
Washington, DC 20003

Dear Mr. Talavera,

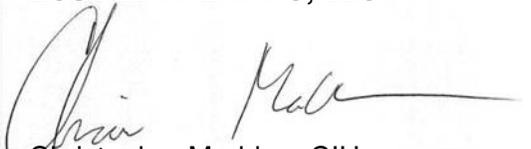
ECS Mid-Atlantic, LLC (ECS) is pleased to provide Superior Concrete Materials, Inc. with this Site Specific Dust Control Plan (SSDCP) for the proposed batch plant to be located at 1721 South Capitol Street, SW in Washington DC. The work described in this report was performed by ECS in general accordance with the Scope of Services described in ECS Proposal Number 47:5760-EP and the terms and conditions of the agreement authorizing those services.

The purpose of this document is to provide a plan to assist in the control of dust emissions from the plant's operations through good practice, training, and engineering controls. It should be noted that ECS is not responsible for the implementation of the Plan. Our plan also does not address general OSHA compliance or other environmental, health and safety compliance unless otherwise noted. The purpose of this document is to provide a plan to assist in the control of dust emissions from the plant's operations.

Feel free to contact us at (410) 859-4300, if there are questions regarding this document, or if you need further information.

Respectfully submitted,

ECS MID-ATLANTIC, LLC



Christopher Madden, CIH
Senior Environmental Project Manager



Christopher Chapman, CIH
Director of Industrial Hygiene

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1.0 GENERAL

1.1 Introduction

The proposed Superior Concrete Materials, Inc. facility is planned to be located at 1721 South Capitol Street, Southwest in Washington, D.C. The facility is proposed to be equipped with a Ready Mix Concrete Re-Manufacturing Batch Plant (Portable). The plant is proposed to have an estimated annual production capacity of approximately 220,000 yards. A general proposed plan of the facility can be found within the Appendix.

The purpose of this document is to provide a plan to assist in the control of significant dust emissions from the plant's operations. ECS understands this plan is needed for the application of an operations permit with the Washington, DC Department of Energy and Environment (DOEE), Permitting and Enforcement Branch, Air Quality Division.

1.1.2 Process Overview

Concrete from this facility is composed of cement, cement supplement (fly ash and slag), fine aggregates (sand), and coarse aggregates (gravel and stone). These materials are delivered to the plant by truck. The cement and cement supplement is directly transferred to silos via pneumatic transfer. The aggregate materials are transferred to elevated storage bins via a conveyor belts system. The materials loaded onto the conveyor belt system are loaded onto the belts directly from the trucks or the material is transferred from stock piles by a front-end loader (EPA, 2006).

Once the material is transferred to elevated bins, the constituents are fed by gravity to weigh hoppers, which combine the proper amounts of each material based on client specifications. The constituents are then gravity fed into mixer trucks and transported to various job sites (EPA, 2006).

1.1.3 Emissions

Particulate matter, consisting primarily of cement and cement supplement dust but also including some aggregate and sand dust emissions, is the primary concern (associated with particulate emissions). With the exception of the transfer of cement material to silos, the remaining emission sources are primarily fugitive (reference US EPA Emission Factor Documentation, 2006). "Fugitive sources include the transfer of sand and aggregate, truck loading, mixer loading, vehicle traffic, and wind erosion from sand and aggregate stock piles (reference US EPA Emission Factor Documentation, 2006)." The amount of fugitive emissions generated during the transfer of sand and aggregate depends primarily on the surface moisture content of these materials ((reference US EPA Emission Factor Documentation, 2006)."

1.2 Project Personnel

This refers to Superior Concrete Materials, Inc. who will be responsible for the implementation of the SSDCP.

1.2.1 Dust Control Manager – (Currently – Mr. Roberto Talavera)

The ultimate responsibility for SSDCP lies with the Dust Control Manager. The Dust Control Managers responsibilities include:

- Ensuring and enforcing compliance with this SSDCP.
- Performing recordkeeping for daily logs, training, etc.
- Coordinating with field team members to ensure that requirements of this SSDCP are met and documented, and that their workers understand and sign this plan.

The Dust Control Manager or designee has overall responsibility for the development, implementation and enforcement of this SSDCP. He/She will also approve any changes to this plan due to modification of procedures or newly proposed site activities or new equipment. Any changes to the plan must be approved by the DOEE prior to instituting these changes.

1.2.2 Field Team Members

Field team members and subcontractors are responsible to the Dust Control Manager for all onsite activities. The responsibilities of field team members include:

- Complying with all aspects of this SSDCP.
- Obeying the orders of the Dust Control Manager.
- Notifying immediate supervisor or the Dust Control Manager of any significant fugitive emissions.

2.0 DUST CONTROL MEASURES

2.1 Point Source Emissions

As noted, the primary point source for dust emissions is associated with the pneumatic transfer of cement and cement supplement into the silos. The silos are planned to be equipped with Stephens Ozone Super-Flow Cartridge Dust Collectors ©.

According to the manufactures specifications:

The Stephens Cartridge Filter consists of pleated media in a cylindrical configuration. This design allows for installation and change-out with a minimum [sic] effort. Each Stephens Filter is supplied with its own gasket to insure a positive, airtight seal each time the filter is changed.

The filters are installed horizontally, and are cleaned automatically in sequence each time the cleaning cycle start button is pushed, so only a portion of the filters are off-line at any given time.

During normal operation, “dirty” air enters the dust collector through the inlet and passes through the filter elements. Dust is collected on the outside surface of the elements and “clean” air flows through the center of the elements into the clean air plenum. The filtered air than exits through an outlet.

A solid-state time and sequence control board automatically selects the cartridge to be cleaned activating small pilot valves which open the high pressure diaphragm valves. High pressure air pulses are directed into the center of the selected cartridge, blowing collected dust off the filter elements and back down into the silo. After each of the cartridges are cleaned the process will start over, cleaning the first cartridge again (Stephens).”

Daily inspections and weekly/monthly maintenance is to be performed on the silo dust collectors as part of the SSDCP.

2.1.1 Daily Inspection

A daily log sheet will be filled out each day the plant is in operation. The log sheet can be found within the appendix. The following will be addressed daily:

- Check the filter regulator unit that is supplying air to the collector to make sure it is automatically draining.
- Check the air pressure supplying the collector to be sure the collector has approximately 90-pounds per square-inch (PSI). It is anticipated that the dust collector will be equipped with a pressure gauge.

If a deficiency is noted, direct silo loading will be halted until the deficiency can be corrected. The deficiency shall be corrected per the manufactures instruction.

Note: Additional instructions relating to startup are included in the manufacture specifications. These instructions must be followed each time the system is started to avoid damage to the filters. Additionally, if off-hours loading is to occur, the power to the dust collectors should be left on.

2.1.2 Daily Use

The following will be conducted as part of routine operations:

- Observe the top of each silo during the loading and unloading process. If visible emissions are observed, the process will be halted until the deficiency can be corrected. Typically, this will involve inspecting the filter cartridges for wear and tear, and/or inspecting the gaskets.

If a deficiency is noted, direct silo loading will be halted until the deficiency can be corrected. The deficiency shall be corrected per the manufacturer's instruction.

2.1.2 Periodic Maintenance (Weekly)

- Drain the air reservoir located on the collector.
- Inspect the dust collector clean air exhaust for signs of dust escaping out of the exhaust.
- Check the cleaning cycle to be sure the cleaning valves are pulsing, at least every 25 seconds.
- Check the off-line cleaning cycle to be sure the collector continues to clean after tankers are finished unloading.

If a deficiency is noted, direct silo loading will be halted until the deficiency can be corrected. The deficiency shall be corrected per the manufacturer's instruction.

2.1.3 Periodic Maintenance (Monthly)

- Check the silo over-fill protection to make sure it is functioning.
- Check the silo pressure relieve valve to be sure it is functional.
- Inspect the clean air compartment for signs of significant dust. Significant dust in the clean air compartment may be an indicator the cartridges are not functioning properly or a cartridge(s) are misaligned.

If a deficiency is noted, direct silo loading will be halted until the deficiency can be corrected. The deficiency shall be corrected per the manufacturer's instruction.

2.2 Fugitive Emissions

Potential fugitive emissions may occur from aggregate deliveries, moving materials into storage, during loading, and from residual dust deposited onto the parking lot and nearby streets.

2.2.1 Aggregate Deliveries

Aggregates will be delivered to the facility wet. Significant visible fugitive dust emissions are not anticipated.

Relative moisture readings will be collected prior to deliveries. If relative moisture readings are lower than what is “typically” measured, the unloading process will be observed. If fugitive dust emissions are observed during unloading activities, the material will be wetted during the remainder of the unloading process.

2.2.2 Storage Areas

The stock piles will be enclosed on three sides to limit wind erosion and evaporation.

The stock piles will be covered by a 40' x 60' x 15' “Big Top Manufacturing” Awning to limit wind erosion and cover the materials from direct sunlight (limiting evaporation).

The stock pile moisture will be estimated at least once a day by examining the material, per the Daily Log. If the assessor feels the material is too dry, the stock piles will be wet via a hose or sprinkler system. If visible emissions are observed from the stockpiles, the material will be wet via a hose or sprinkler system.

2.2.3 Loading

The plant is proposed to be equipped with a C&W BP-790 Pulse Jet, Central Dust Collector ©. The system is used to control dust discharged when a batch load is released into a tilt or transit mixer prior to be loaded onto a truck.

The dust collector filters air via a fan, mounted onto the top of the system. The fan is switched on at the beginning of the day and runs continuously. The bags are cleaned via compressed air every 45 seconds. The dust from the filters then settles in the hopper. This hopper is then cleaned manually if not equipped with an automatic recycle system.

2.2.3A Daily Inspection

A daily log sheet will be filled out each day the plant is in operation. The log sheet can be found within the appendix. The following will be addressed daily:

- At the beginning of the day, ensure that the fan is operating.
- At the beginning of the day, the fan outlet will be observed for visible emissions.
- Listen for any unusual noises.
- The hopper will be emptied every day.
- Tilt mixer hood shall be inspected and cleaned of any heavy deposits of cement and/or dust daily.
- Check moisture trap on bottom of air regulator for excessive moisture.

- Check drain valve on air receiver tank. No moisture should be present.

If a deficiency is noted, operations will be halted until the deficiency can be identified and corrected. The deficiency shall be corrected per the manufactures instruction.

2.2.3B Daily Use

The following will conducted by a competent staff member during routine operations:

- The vent or fan outlet will be observed for the presence of visible emissions throughout the day. If significant visible emissions are observed, the process will be halted until the deficiency can be corrected. Typically, this will involve inspecting the filter bag connections, inspecting the bags for wear and tear, and/or inspecting the gaskets.

2.2.3C Periodic Maintenance (Weekly)

- Inspect blower on top of unit for proper tension and excessive wear.
- Visually inspect solenoids to ensure proper pulsing.
- Open top of unit and look for dust escaping around filtration media.
- Open hopper door to ensure material being collected is properly discharged.
- Check the air pressure of the system (90-100 PSI).
- Pressure drop across bags must be checked utilizing a magnehelic or photohelic gauge. Reading will indicate condition of bags. Normal operating pressure across bags is 3" to 8" of static pressure. A higher reading indicates excessive buildup on bags, but could also mean filter media is nearing end of service life.
- If the shroud has mechanical lifting device, such as lifting frame, tops should be checked for cleanliness and air leaking from the cylinders. All cables, clamps, and pulleys must be carefully inspected.
- Properly lubricate blower.
- Inspection will be made of dust pick-up points on shroud to remove cement buildup, which occurs due to moisture mixing with cement dust. Also inspect flex duct for holes and tears and replace as necessary.
- Check to ensure water from water injection hose is not leaking or spraying onto underside of shroud. Water will be pulled through ducting and into collector, shortening life of filter media.

2.2.3D Periodic Maintenance (Monthly)

- Fan bearings must be lubricated, assuming a 10 hour/per day operating system. Do not over-grease bearings.
- Check belts for proper tension and wear and replace or adjust if necessary. Check belt alignment to ensure belts are running true.

- Remove fan guard on discharge of fan and inspect fan blades front and back. Build-up of material normally occurs on backside of blades (fans are backward inclined) to the point buildup is thrown from fan causing fan wheel to go off balance. This will cause fan to vibrate and if left unattended will prematurely destroy bearings and bearing supports.
- Re-install guard on fan prior to operating.
- Inspect filter media for signs of general wear and tear and make sure the filtration media is properly sealed.

Miscellaneous

- Tilt mixer hood shall be inspected and cleaned of any heavy deposits of cement and/or dust daily.
- Inspect the integrity of the air flow system – hood, ductwork, baghouse, hopper, and hopper discharge.
- Inspect fasteners as they may have loosened due to vibration.

If a deficiency is noted, loading will be halted until the deficiency can be corrected. The deficiency shall be corrected per the manufactures instruction.

2.2.3E Periodic Maintenance (Yearly)

- If an optional recycle blower is installed, there is an oil reservoir that must be serviced annually with a synthetic lubrication.
- The ducting will be inspected once a year for excessive buildup. Ducting should have been installed in sections to accommodate this yearly inspection.

2.2.3 Residual

Residual fugitive dust is anticipated to settle within the parking lot, adjoining streets, and shopareas due to general operations and adjoining operations.

2.2.3A Onsite Parking Lot/Shop

At the discretion of the Dust Manager, residual dust within the shop and parking lot may be manually swept or swept with a mechanical sweeper.

At the discretion of the Dust Manager, the parking will be periodically wetted down to reduce fugitive emissions.

2.2.3B Offsite – Streets

A mechanical sweeper will be utilized throughout the day to sweep the portions of the streets that directly boarder the facility (S Street SW; Half Street, SW; South Capitol Street, SE; and R Street, SW). Mechanical sweeping will occur daily, at least every two to four hours. The sweeper operator will log the times sweeping began and ended and note the streets that were swept. A figure indicating the areas to be swept can be found within the Appendix. The

frequency of sweeping however will also be dictated by weather conditions, and sweeping will occur less frequently during or after rain or snow events.

2.2.3C Truck Wash System

To reduce fugitive emissions onsite and offsite, each cement truck will be washed after loading is complete. Once a truck is loaded it will travel through a Shumaker Industries "Load and Go Ready Mixed Truck Wash System ©." The automated system uses "high pressure water to remove concrete and cement dust from the mixers as it leaves the batch plant (Shumaker Industries)." Each mixer will be washed for approximately 60 seconds using the system after the mixer is loaded.

3.0 TRAINING

3.1 General

An initial briefing will be provided to existing employees and new employees regarding the specifics of the SSDCP. Specifically, the briefing should include reporting procedures for employees to notify appropriate personnel of any significant visible emissions being emitted from the facility. Training should also include best practices with respect to reducing emissions of dust from the facility.

Should the employee be involved in the daily inspection of equipment as noted in this plan, the employee will be trained on the operation, inspection, and maintenance of applicable equipment.

3.2 Maintenance Personnel

Manufacturer recommended training (as necessary) shall be provided to individuals performing maintenance operations of dust control equipment such as the C & W Central Dust Collector and the Stephens Ozone Super-Flow Cartridge Dust Collectors.

Additionally, periodic maintenance may prompt additional regulated activities such as lock out/tag out, confined space entry, etc. Additionally, the facility will provide any training that may be required per OSHA.

4.0 LIMITATIONS

The conclusions and recommendations presented within this report are based upon a reasonable level of assessment within normal bounds and standards of professional practice for a site in this particular geographic setting. ECS is not responsible or liable for the discovery and elimination of hazards that may potentially cause damage, accidents, or injuries.

The observations, conclusions, and recommendations pertaining to environmental conditions at the subject site are necessarily limited to conditions observed, and/or materials reviewed at the time this study was undertaken. No warranty, expressed or implied, is made with regard to the conclusions and recommendations presented within this report. This report is provided for the exclusive use of the client. This report is not intended to be used or relied upon in connection with other projects or by other unidentified third parties without the written consent of ECS and the client.

Our recommendations are in part based on federal, state, and local regulations and guidelines. ECS does not assume the responsibility of the person(s) in charge of the site, or otherwise undertake responsibility for reporting to any local, state, or federal public agencies, any conditions at the site that may present a potential danger to public health, safety, or the environment. Under this scope of services, ECS assumes no responsibility regarding any response actions initiated as a result of these findings. General compliance with regulations and response actions are the sole responsibility of the Client and should be conducted in accordance with local, state, and/or federal requirements.

It is understood that this is a dynamic operation and changes/upgrades to plant equipment and operations are expected occur over time. Review and revision of this plan is expected whenever there is a change to process, equipment, materials etc.

5.0 REFERENCES

BP-Series Central Dust Collectors, C&W Manufacturing and Sales Company, P.O. Box 908, Crowley, Texas 76036, 2017.

Emission Factor Documentation for AP-42 11.12, Concrete Batching, Office of Air Quality Planning and Standards and Radiation, U.S. Environmental Protection Agency, Pages 1-2, June 2006.

Load and Go, Ready Mixed Truck Wash System, Shumaker Industries, 924 Water Street, Northumberland, Pennsylvania 17857.

Stephens Ozone Super-Flow, Cartridge Dust Collectors, Technical, Installation, Operation & Maintenance Manual, Stephens MFG. CO., 711 Thompkinsville, Kentucky 42167.

Appendix I: Figures



Legend

— = Streets to be swept by sweeper

Proposed Site Location

Source: Google Earth
 Scale: NTS
 Date: 2016



Dust Control Plan
 Superior Concrete Materials, Inc.
 1601 South Capitol Street, SW
 Washington, DC 20003



Figure 1
 Streets to be Swept
 ECS Project 47-4827
 October 2017

Appendix II: Log Sheets

Daily Log

Superior Concrete
1721 South Capitol Street, SW
Washington, District of Columbia 20003

Date: _____

Silo Dust Collectors

Silo Dust Collectors	Yes	No
Is the filter regulator unit automatically draining?		
Is the pressure supplying the collector approximately 90 PSI?		

If a deficiency is noted, alert your supervisor and halt the operation until the deficiency can be corrected.

Name: _____

C&W BP-790 Pulse Jet (Central Dust Collector)

Central Dust Collector	Yes	No
Is the fan operating?		
Are visible emissions observed from the fan outlet?		
Are any unusual noises present?		
Has the hopper been emptied in the 24-hours?		
Are heavy deposits of cement and dust present on the tilt mixer?		
Excessive moisture present on the bottom of the air regulator?		
Is moisture present at the drain valve on the receiver tank?		

If a deficiency is noted, alert your supervisor and halt the operation until the deficiency can be corrected.

Name: _____

Weekly Log

Superior Concrete
 1721 South Capitol Street, SW
 Washington, District of Columbia 20003

Date: _____

Silo Dust Collectors

Silo Dust Collectors	Yes	No
Drain the air reservoir located on the collector. Check yes when complete.		
Is dust escaping out of the exhaust?		
Are the cleaning valves pulsing at least every 25 seconds?		
Is the off-line cleaning cycle operating?		

If a deficiency is noted, alert your supervisor and halt the operation until the deficiency can be corrected.

Name: _____

C&W BP-790 Pulse Jet (Central Dust Collector)

Central Dust Collector	Yes	No
Inspect blower on top of unit for proper tension and excessive wear. Check yes if acceptable.		
Visually inspect solenoids for proper pulsing. Check yes if acceptable.		
Open unit. Is dust escaping around filtration media?		
Check the air pressure of the system. Check yes if approximately 90 PSI.		
Check the pressure drop across filtration media. Is the pressure drop 3-8"?		
Has the blower been properly lubricated?		
Inspect dust pick up-points. Is cement build-up present?		
Is the water injection hose leaking or spraying?		
Mechanical Lift Device (If Present)		
Check mechanical lifting device, including cables, clamps, and pulleys. Are the cylinders leaking?		

If a deficiency is noted, alert your supervisor and halt the operation until the deficiency can be corrected.

Name: _____

Monthly Log

Superior Concrete
1721 South Capitol Street, SW
Washington, District of Columbia 20003

Date: _____

Silo Dust Collectors

Silo Dust Collector	Yes	No
Is the over-fill protection functioning?		
Is the silo pressure relieve valve functioning?		
Is significant dust present within the clean air compartment?		

If a deficiency is noted, alert your supervisor and halt the operation until the deficiency can be corrected.

Name: _____

C&W BP-790 Pulse Jet (Central Dust Collector)

Central Dust Collector	Yes	No
Are the fan bearings properly lubricated?		
Check belts for proper tension and alignment. Check yes if acceptable.		
Remove fan guard and inspect fan blades for material build up. Check yes if acceptable.		
Re-install guard on fan before operation. Check yes when complete.		
Inspect filtration media for general wear and tear.		
Miscellaneous		
Are heavy deposits present on the tilt mixer hood?		
Inspect the integrity of the air flow system. Check yes if acceptable.		
Inspect fasteners. Check yes if acceptable.		

If a deficiency is noted, alert your supervisor and halt the operation until the deficiency can be corrected.

Name: _____

Yearly Log

Superior Concrete
1721 South Capitol Street, SW
Washington, District of Columbia 20003

Date: _____

C&W BP-790 Pulse Jet (Central Dust Collector)

Central Dust Collector	Yes	No
Is excessive build-up present in the ducting?		
Recycle Blower (If Present)		
Service the oil reservoir associated with the blower. Check yes when complete.		

If a deficiency is noted, alert your supervisor and halt the operation until the deficiency can be corrected.

Name: _____