

FOP/RCA DUST CONTROL PLAN
for
**Former Operating Plant Remediation Activities and
Remediation Consolidation Area Operation and Closure Activities**
at
**Exide Technologies Frisco Recycling Center
Frisco, Texas**

Prepared by
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August 2018
Updated May 2019

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1.0 INTRODUCTION

The purpose of this Dust Control Plan is to identify the measures that will be taken to minimize emissions associated with remediation activities at the Former Operating Plant portion of the Exide Technologies Frisco Recycling Center in Frisco, Collin County, Texas, including operation and closure activities at the Remediation Consolidation Area (RCA). Specifically, this Dust Control Plan specifies the requirements and methods for minimizing dust generation during excavation, consolidation, and closure activities. This plan works in conjunction with the FOP/RCA Air Monitoring Plan, which describes the air monitoring activities that will be performed during the work. This plan addresses the dust control measures to be implemented during the “dust-generating activities” involving excavation, transport and placement of contaminated soil from the FOP and excavation, transport and placement of sediment (or other approved waste as described in the Final Closure Plan) in the RCA and limited demolition work.

Air monitoring is not required during the following activities:

- Initial construction of perimeter berms constructed of clean soil
- Placement of the soil cap once contaminated soil or waste is covered
- Backfill of excavation areas with clean soil.

The purpose of this Dust Control Plan is to identify steps that will be taken to reduce particulate matter, lead, and cadmium emissions during demolition, excavation, consolidation, and closure activities. It provides specific information about the generation and control of dust emissions during these activities. This plan also includes site-specific dust suppression procedures. Best management practices (BMPs) will be implemented throughout the project. BMPs will include wetting active work areas, minimizing or ceasing activity during periods of high wind (i.e., greater than 20 miles per hour), wetting paved areas and unpaved areas in the FOP, and application of dust suppressant materials. This Dust Control Plan is to be used in conjunction with the FOP/RCA Air Monitoring Plan. The following sections detail potential dust sources and dust control means and methods.

1.1 Project Overview

The overall project consists of excavation of contaminated soil and sediment from affected properties at and downstream of the FOP, consolidation of these wastes and other approved wastes in the RCA, and closure activities at the RCA. Limited demolition of specified above grade concrete walls and the wastewater treatment plant may also be performed prior to or during the course of the remediation and closure activities. Waste placed in the RCA will be waste generated during the ongoing demolition and remediation activities at the FOP and downstream Stewart Creek. Dust control is a high priority during the project.

1.2 Air Monitoring and Dust Prevention Team

These points of contact have the authority to implement additional dust control provisions and stop work provisions based on the FOP/RCA Air Monitoring Plan. These team members are also responsible for maintenance and revisions of the Dust Control Plan.

Employee Name	Employee Title	Designated Dust Control Responsibility
To Be Determined	Project Manager	On-site project manager responsible to insure Dust Control Plan is followed by all project team members.
To be Determined	Principal in Charge or Equivalent Role	Senior management authority; provide corporate support to ensure availability of necessary resources to maintain compliance with the Dust Control Plan.
To be Determined	Project Manager or Equivalent Role	Qualified Individual; review and modify the Dust Control Plan to keep it current; ensure proper record keeping. Review of laboratory reports and field data sheets prepare correlation between dust monitors and laboratory data and review air monitoring locations
To Be Determined	Air Monitoring Technician	Responsible for air monitoring required by these plans; responsible for maintenance of monitoring equipment; responsible for preparation of daily reports.

2.0 DUST CONTROL

Dust control is a high priority during remediation, demolition and soil placement activities. The main dust control method to be used during remediation activities at the FOP will be the application of water using fine water mist to the area being actively excavated using an airborne dust suppression system (e.g., Buffalo Turbine BT-MDC2 or Dust Boss DB 60 with oscillation or current manufacturer's replacement model). The airborne dust wet suppression system resembles a snow making machine and can cover a large area with a fine mist of water, effectively controlling dust. A water truck or tank will be staged with the airborne dust suppression system to provide water to the system. A water truck will be used to fill the tank and provide additional dust suppression as needed. Soil excavation will not proceed unless the airborne dust suppression system or a water truck is available for use.

Given the damp conditions of the soil due to wetting at the excavation area, and based upon our previous experience during remediation of the former undeveloped buffer property it is anticipated that spraying fine water mists using the airborne dust suppression system will be sufficient to control dust during the placement activities. Descriptive literature on the Dust Boss DB 60 and the Buffalo Turbine BT-MDC2 is included in Attachment 1. Only potable water will be used for dust control purposes.

Proactive controls will be instituted to reduce the amount of dust generation during FOP activities, including enforcement of low speed limits for onsite vehicular traffic, stopping dust-generating activity during high wind conditions, decontamination of trucks leaving the Site, and height limits for soil stock piles. The size of stockpiles will be limited to 250 cubic yards with an area of approximately 30 by 30 feet and height of approximately 8 feet. The length and width of the stockpiles may vary, but the height will not exceed 8 feet. When not actively being worked, stockpiles will be covered with plastic sheeting to reduce dust emissions and prevent infiltration/runoff during rain events. Plastic sheeting will be secured in place with pin anchors, sand bags, or other devices to reduce the potential for displacement due to weather.

If enhanced dust suppression is required by ambient conditions, paper mulch mixed with a tackifier may be applied to areas where waste is not being actively placed. Section 3.0 describes the additional dust control measures to be used. Information on the paper mulch material and tackifier is provided in Attachment 2.

If the sustained wind speed (the wind speed obtained by averaging the measured values over a ten minute period) exceeds 20 miles per hour, it is a "high wind condition." When there is a high wind condition, all excavation and RCA operation and closure activities must cease until the sustained wind

speed declines to 20 miles per hour or lower for at least 10 consecutive minutes. Non-dust producing activities (equipment maintenance, etc.) may still be conducted during these periods.

2.1 Training of Personnel

The contractor will implement a dust control training program for all Site personnel. This training program will review the potential sources of dust, individual responsibilities, and actions for controlling dust as described in this Plan. The training will emphasize the importance of dust control to the overall success of the remediation activities and familiarize Site personnel with the air monitoring requirements and appropriate dust control procedures that must be adhered to in order to minimize dust generation in accordance with this plan.

2.2 Inspection and Maintenance

Dust suppression equipment will be inspected at least once a week and properly maintained. The contractor will maintain records of the weekly inspections.

3.0 POTENTIAL DUST GENERATION ACTIVITIES AND PROPOSED CONTROLS

Excavation and RCA operation and closure activities will have the potential to generate emissions in the form of fugitive dust. Dust control methods will vary based on the activities occurring at the Site. Dust control methods are summarized by source below. Table 3-1 describes the activities to be conducted during soil excavation and consolidation activities which have the potential to generate dust and the respective dust control measures for each activity.

Table 3-1 Potential Dust Generation Activities and Proposed Control	
Activity	Proposed Controls
General Dust Suppression – All Dust-Generating Activities involving potentially contaminated materials	Use of airborne dust wet suppression system during operating hours for all material handling activities and otherwise as needed. Water spray/mist to wet work areas prior to beginning work and as a supplemental system. Adjust the waste placement rate. Suspend work under high wind conditions until sustained wind speed is below 20 mph for at least 10 consecutive minutes.
Truck Traffic	Wetting unpaved and paved onsite haul roads prior to the start of activities each morning and as needed during working hours. Lower speed limits for onsite vehicular traffic to reduce dust generation. Remove loose material before truck exits work area.
Excavation	Water spray/mist to wet excavation areas and/or use of airborne dust wet suppression system as needed for dust generating activities. Adjust excavation activities. Suspend work under high wind conditions.
Soil or Sediment Stockpiling	Ensure soil or sediment is damp prior to stockpiling. Water spray/mist work area prior to beginning work and as a supplemental system. Cover stockpiles at the end of each day and when not in active use and secure cover.
Waste Placement	Use of airborne dust wet suppression system. Water spray/mist the work area prior to placement and as a supplemental system.

<p align="center">Table 3-1 Potential Dust Generation Activities and Proposed Control</p>	
Activity	Proposed Controls
Demolition	Use of airborne dust wet suppression system. Water spray/mist to wet work areas prior to beginning work and as a supplemental system. Adjust demolition activities. Suspend work under high wind conditions.

3.1 Dust Suppression Measures

3.1.1 Particulate Matter Take Action Levels

If visible dust is present in the work area, increased wetting of the area using water sprays from perimeter hoses, water trucks, and/or spray misters will be implemented. Airborne dust suppression will be achieved by use of oscillating spray misters that provide dust suppression within a 100-200 ft. range of the mister units. (The range is dependent upon wind speed and direction.) Additional details regarding the airborne dust suppression system are provided in Attachment 1. If visible dust is observed leaving the RCA or soil excavation area, work will stop and additional dust control measures will be implemented. These additional dust control measures may include:

- Increased wetting/misting of work area(s) and/or roadways
- Adjusting the rate/speed and/or quantity of equipment in the excavation areas
- Adjusting the rate/speed and of equipment in the RCA
- Applying temporary cover (paper mulch with tackifier, plastic sheeting or a similar cover) to placement areas not being actively worked

3.1.2 Particulate Matter and Metals Concentration Take Action Levels

If the 30-minute average PM₁₀ concentration from the downwind monitors or the downwind sampler analytical data for metals exceeds the applicable Take Action Levels set forth in Table 1 of the FOP/RCA Air Monitoring Plan, then the contractor will immediately implement increased dust suppression activities. Airborne dust suppression will be achieved by use of oscillating spray misters that provide dust suppression within a 100-200 ft. range of the mister units. These increased dust suppression activities may include, but are not limited to, the following:

- Increased wetting/misting of work area(s) and/or roadways
- Adjusting the rate/speed and/or quantity of equipment in the excavation area(s)
- Adjusting the rate/speed and of equipment in the RCA
- Applying temporary cover (paper mulch with tackifier) to placement areas not being actively worked

3.1.3 Particulate Matter and Metals Concentration Stop Work Levels

If the one-hour (60-minute) average or 30-minute average PM₁₀ concentration from the downwind monitors exceeds the applicable Stop Work Level set forth in Table 1 of the FOP/RCA Air Monitoring Plan, the contractor will immediately stop all excavation and soil loading and placement work. The dust suppression activities may include, but are not limited to, the following:

- Mobilize and make operational an additional Airborne Dust Suppression System
- Increased wetting/misting of placement areas and/or roadways
- Applying temporary cover (paper mulch with tackifier) to excavation areas not being actively worked
- Adjusting the rate/speed of equipment in the RCA or excavation area

- Stopping specific dust-generating activities until wind directions and/or wind speeds are more conducive to reduced dust levels

3.2 Excavation Activities

Dust control measures will include water spraying/misting prior to excavation activities to control dust during excavation activities and during excavation as a supplemental system. Water to be utilized for dust suppression will be potable municipal water supplied by a hydrant located on the Exide property. Water to the hydrant is supplied through the City of Frisco Municipal Water System.

Water trucks will be filled at the water loading area at the Exide facility and sent to active excavation work areas for dust suppression as needed. The airborne dust wet suppression system will be operated during excavation to control dust. Excavation activities that are capable of generating dust associated with contaminated soil are not permitted to continue when dust suppression capabilities are unavailable.

If there is a high wind condition, all excavation work will cease until the sustained wind speed decreases to less than 20 miles per hour for at least 10 consecutive minutes.

3.3 On-Site Transportation

All employee vehicles will enter the site from the east entrance. Employees will park in the designated parking area at the facility. No private vehicles will be allowed into the work areas.

Vehicle travel on unpaved access roads will be limited to 10 miles per hour. Project personnel are required to obey speed limits to prevent wind turbulence and associated dust generated at higher vehicle and equipment velocities. Off road travel on unimproved roads will be limited to construction equipment, support vehicles and material delivery trucks.

Unpaved and paved roads will be wetted using a water truck prior to the start of activities each morning and during working hours, as appropriate to minimize dust formation without creating runoff or tracking issues.

3.4 Soil or Sediment Stockpiles

Fugitive dust emissions from soil or sediment stockpiles at the FOP or along Stewart Creek will be controlled using temporary covers and water sprays. Controls for dust mitigation during soil/sediment stockpiling include a water spray/mist from a water truck prior to work beginning and during work as a supplemental system, operation of the airborne dust wet suppression system as a supplemental control as needed, and covering stockpiles. The height of stockpiles will be kept to approximately 8 feet with a maximum volume of 250 cubic yards each. The lateral extent of each stock pile will be no greater than approximately 30 feet by 30 feet. The length and width of the stockpiles may vary, but the height will not exceed 8 feet. Each stockpile will be covered with 6 mil (or thicker) poly sheeting and weighted down by sandbags (or other appropriate weights) at the end of each day and when the stockpile is not in active use.

3.5 Soil/Sediment Loading and On-Site Transportation

Soil/sediment will be loaded into haul trucks using an excavator or front end loader. For areas where waste classification has previously been determined, the loading will be completed concurrently with excavation or will be stockpiled per the requirements of Section 3.4 concerning Soil Stockpiles. If loading is being conducted in areas that are considered "clean", polyethylene sheeting will be placed on the ground in the loading area to allow any spillage that occurs during the truck loading operations to be easily cleaned up. Each truck will be inspected and soil adhering to the outside of the bed will be removed. The load will be tarped or the surface of the load will be wetted prior to exiting the load out area.

Loaded trucks will proceed directly from the load-out area of the excavation area to the RCA. A clean haul road and bulkhead will be constructed to allow the waste hauling trucks to dump their loads without traveling over waste material. A truck tire decontamination area will be established at the egress from the RCA. The tires of each truck will be brushed or washed as needed in this area prior to return to the excavation area. Truck tire decontamination fluids will be processed through the on-site waste water treatment plant.

3.6 Waste Placement

Large area misters will be mobilized to the RCA to wet work areas prior to the beginning of work and during waste placement. Waste placement activities are not permitted to continue when dust suppression capabilities are unavailable. Only potable water will be used for dust control purposes.

Material placed in the RCA may be covered with paper mulch and tackifier to prevent the generation of dust on an as needed basis. As the waste material is not expected to attract birds or animals nor to generate dust once placed during the relatively brief periods between additional placement of misted / moistened material, daily cover of the active areas will not be required in accordance with the Final Closure Plan.

3.7 Equipment Decontamination

The excavation equipment will be decontaminated between each excavation area and upon completion of the excavation activities. The decontamination between each excavation area is expected to be minimal and should only include the tracks or tires and/or ground-engaging parts of the equipment. The decontamination will consist of dry decontamination followed by washing with potable water, if needed. The decontamination will be completed immediately adjacent to the excavation on a prefabricated decontamination pad. The decontamination solids and liquids generated from each area will be incorporated into the waste materials from the area that was excavated. If more liquids are generated during the decontamination process than will soak into the excavated soil, they will be placed into containers and transported to the on-site wastewater treatment plant for processing or transported off-site in accordance with applicable regulations.

Equipment used in the RCA will be decontaminated prior to leaving the RCA area. The decontamination will consist of dry decontamination followed by washing with potable water, if needed. The decontamination will be completed immediately adjacent to the RCA on a prefabricated decontamination pad. The decontamination solids and liquids generated from the RCA will be incorporated into the waste materials in the RCA. If more liquids are generated during the decontamination process than will soak into the excavated soil, they will be placed into containers and transported to the on-site wastewater treatment plant for processing or transported off-site in accordance with applicable regulations.

4.0 POINTS OF CONTACT

Concerns regarding activities conducted at the Exide Technologies Frisco Recycling Center should be addressed to the following points of contact:

Exide:
Eduardo Salazar
P.O. Box 250
Frisco, Texas 75034
Ph: 972-335-2121
Cell: 972-786-5404
Eduardo.Salazar@exide.com

Texas Commission on Environmental Quality:

Margaret Ligarde

Office of Legal Services

MC-173

P.O. Box 13087

Austin, Texas 78711

Ph: 512-239-3426

Fax: 512-239-0330

Margaret.ligarde@tceq.texas.gov

City of Frisco:

Mack Borchardt

City of Frisco

6101 Frisco Square Blvd.

Frisco, Texas 75034

Ph: 972-292-5127

Fax: 972-292-6319

mborchardt@friscotexas.gov

ATTACHMENTS

ATTACHMENT 1

Descriptive Literature on Misting Equipment

Monsoon

DUST CONTROLLER- DIESEL COMPLETE



HIGH SPEED
OSCILLATION
UP TO **270°**



Made in America



BUFFALO TURBINE

180 Zoar Valley Road, Springville, NY 14141 | ph 716.592.2700 | www.buffaloturbine.com | Dealer Inquiries Welcome



QUESTIONS? SPEAK WITH AN EXPERT :: (716) 592-2700 :: M-F 8:00AM-4:30PM EST :: Jody Smith | Brian Singer

➤ MONSOON DUST CONTROLLER W/OSCILLATION - DIESEL

TOP BENEFITS

- > Extended engine life when compared to traditional gas models
- > Powerful and versatile
- > Easy to operate and maintain
- > Self contained

TOP FEATURES

- > High speed oscillation up to 270°
- > Dual 6 gallon fuel tanks for additional run time
- > Low oil shut-off feature
- > Low intake airflow shut-off
- > 3 wheel off-road trailer package for ease of transport

ENGINE SPECS

- > Kohler 3-cylinder diesel engine
- > Liquid cooled, tier-4 compliant
- > 3 year engine warranty
- > 12 gallon fuel capacity

PHYSICAL SPECS

- > Length w/wheels & handle removed: 88"
- > Overall length w/nozzle & tow handle: 136"
- > Width: 55"
- > Max height w/nozzle in upright position: 54"
- > Weight: 975 lbs.

GENERAL INFO

- > Hand held wireless transmitter (water resistant) with push button control (manual control option available)
- > Gyrotary atomizing nozzle system
- > Hose input: 3/4" utility / garden hose
- > Min/Max water pressure: 40psi - 120psi
- > Min/Max water volume: 1/3 gallon - 20 gallons per minute
- > Throw distance (neutral wind conditions): Vertical: up to 50 ft, Horizontal: up to 125 ft
- > Input RPM: Up to 3600 rpm
- > Outlet size: 12"
- > Droplet size: 50 - 200 microns

Applications

Demolition Sites | Landfills | Wood Recycling
Scrap Metal Recycling | Aggregate Processing
Waste Transfer



**Optional* Lifting Bracket



**Optional* Fork Lift Pockets





DB-60 SPECS >

GENERAL SPECIFICATIONS

- > 30,000 CFM (849.50 CMM) generated by 25 HP fan.
- > 21,000 square feet (1,950 square meters) coverage. Up to 84,000 square feet (7,804 square meters) coverage available with optional 180° oscillation.
- > Oscillator gives 0–40° of movement on standard unit. Unit can also be equipped with optional 180° oscillation.
- > Adjustable angle of throw 0–50° of height adjustment.

ELECTRICAL SPECIFICATIONS

- > U.S.: 3 Phase / 25 HP fan / 480 Volt / 60 Hertz.
Full load current is 46 amps. 60 Kw gen set is recommended.
Motor is designed with a 1.15 service factor capable of operating at +/- 10% of design voltage.
- > Other motor options available, including all international electrical motors:
 - 3 Phase / 25 HP fan / 380 Volt / 50 Hz (Europe, Middle East, N. Japan, Latin America)
 - 3 Phase / 25 HP fan / 400 Volt / 50 Hz (Europe, Japan, New Zealand, Australia)
 - 3 Phase / 25 HP fan / 415 Volt / 50 Hz (Europe, New Zealand, Australia)
 - 3 Phase / 25 HP fan / 575 Volt / 60 Hz (Canada)
 - 3 Phase / 25 HP fan / 380 Volt / 60 Hz Korea)
 - 3 Phase / 25 HP fan / 440 Volt / 60 Hz (Mexico)
- > 380, 400, 415 volt / 50 Hz motors are designed with a 1.00 service factor capable of operating at +/- 10% of design voltage.
- > 10 HP (7.5 Kw) high-pressure booster pump with no lift.
- > 1/8 HP (0.10 Kw) oscillator.
- > 150 foot (45.72 meters) 6/4 electrical cord. Other options available.
- > No male plug, "bare wired" is standard. Any plug is extra cost.
- > Cabinet with control panel.

WATER SPECIFICATIONS

- > 10PSI (0.69 BAR) constant pressure needs to be delivered to booster pump. Maximum inlet water pressure should not exceed 100 PSI (6.89 BAR) when operating the booster pump.
- > Maximum PSI delivered by booster pump is 200 PSI (13.79 BAR).
- > Filter is included and should be used at all times. Contact us for recommendations when using nonpotable water.
(Filter system in-line 30 mesh 595 micron).
- > 1-1/2" (38.10 mm) cam-and-groove quick disconnect female coupling for fire hose provided on machine.
- > 30 brass nozzles (also available in stainless and nylon).
- > Droplet size of 50–200 microns.
- > Throw 200 feet (60 meters).

ENGLISH UNITS	WITHOUT BOOSTER PUMP				WITH BOOSTER PUMP		
Water Pressure, psi	40	60	80	100	160	180	200
Water Flow, gpm	12	14.6	16.9	18.9	23.9	25.4	26.7
METRIC UNITS							
Water Pressure, bar	2.8	4.14	5.5	6.89	11	12.4	13.8
Water Flow, lpm	45.3	55.4	64.0	71.6	90.5	96.0	101.2

1-1/2" FIRE HOSE WATER SUPPLY



NOISE LEVELS

WITH BOOSTER PUMP	CONTROL PANEL SIDE	BACK SIDE OF FAN	OPPOSITE SIDE	DISCHARGE
0 feet	92	103	92	100
12 feet	86	89	84	88
WITHOUT BOOSTER PUMP	CONTROL PANEL SIDE	BACK SIDE OF FAN	OPPOSITE SIDE	DISCHARGE
0 feet	86	101	88	96
12 feet	80	87	80	84

DIMENSIONS

ON STANDARD WHEELED CARRIAGE

- > 6.75 feet (81 inches; or 2.06 meters) wide.
- > 9.75 feet (117 inches; or 2.97 meters) long.
- > 7.17 feet (86 inches; or 2.19 meters) tall.
- > 1800 lbs. (816.50 kilograms).

MAINTENANCE

- > If using potable water, nozzles need to be inspected once a year.
- > Fan motor and high pressure pump should be greased every 10,000 hours.
- > Oscillator bearing should be greased on a regular maintenance schedule, or as needed.

CHEMICAL ADDITIVES

- > Can be used with surfactant to improve binding of dust particles or with tackifying agents to seal the ground to prevent dust from becoming airborne.
- > Odor control chemicals can be used to help eliminate odor.

OPTIONS

- > Unit is available with optional 180° oscillation. Standard oscillation provides 0–40° of movement.
- > Available on frame with skid mount. Unit comes standard on wheeled carriage.
- > Dosing pump can be added to unit for chemical applications.

WARRANTY

- > Unit is covered by a 3-year/3,000-hour warranty.

> CALL: 1 (800) 707-2204 (U.S.)
+1 (309) 693-8600 (Int'l)

> 24 HR Technical Support: (309) 645-3691
www.dustboss.com

ATTACHMENT 2

Descriptive Literature on Dust Suppression Material



Conwed Fibers®

Family of Hydraulic Mulch Products

Setting the Standards for Erosion Control Since 1965



CONWED FIBERS®

■ Conwed Fibers® Is Your Insurance Policy Against the Storm of Phase II



Nothing is changing the face of erosion control more dramatically than the Clean Water Act. Noncompliance with the National Pollution Discharge Elimination System (NPDES) Phase II storm water regulations is subject to administrative orders, civil actions and/or criminal prosecutions on federal, state, county and/or local level. Conwed Fibers® can help ensure you'll be in compliance by helping you calculate the Revised Universal Soil Loss Equation (RUSLE) and select the most effective mulches for your site. Don't leave anything to chance. Ask the Conwed Fibers experts.

■ Select the Right Mulch for Your Specific Job

A broad range of Conwed Fibers hydraulic mulches is available for today's hydro-seeder. Each has properties and performance characteristics that make them best suited to different types of sites. You can customize each to meet your specific site requirements.

PRODUCT	APPLICATION	SLOPE	CONTINUOUS MAX. SLOPE LENGTH* (without slope interruption devices)	CONDITIONS	RATE/LBS PER ACRE
Hydro-Blanket® BFM	Erosion Control	≤ 1:1 ≤ 2:1 ≤ 3:1	75 ft	Critical Sites	4,000 3,500 3,000
Conwed Fibers® 2000	Erosion Control	≤ 2:1 ≤ 3:1 ≤ 4:1	30 ft	Moderate	3,000 2,500 1,500-2,000
Conwed Fibers® 1000	General Seeding	≤ 2:1 ≤ 3:1 ≤ 4:1	28 ft	Moderate	3,000 2,500 1,500-2,000
EnviroBlend® with Tack	General Seeding	≤ 3:1 ≤ 4:1	25 ft	Mild	2,500 1,500-2,000
EnviroBlend®	General Seeding	≤ 3:1 ≤ 4:1	23 ft	Mild	2,500 1,500-2,000
Cellulose with Tack	General Seeding	≤ 4:1	20 ft	Mild	1,500-2,000
Cellulose	General Seeding/ Reclamation/ Straw Tacking	≤ 4:1	18 ft	Mild	1,500-2,000

*Maximum slope length is based on a 4H:1V slope (BFM is 3H:1V). For applications on steeper slopes, the maximum slope length may need to be reduced based on actual site conditions.

■ The #1 Choice of Hydro-Seeders

More hydro-seeders choose Conwed Fibers® wood and wood/cellulose hydraulic mulches than any other brands.

Conwed Fibers set the standard for erosion control excellence when it began operations in 1965. Our wood-fiber hydraulic mulch stood head and shoulders above all other mulches at that time, and it still does. Continual research, thorough testing at leading universities, and the commitment to remain the premium mulch producer has kept Conwed Fibers on top of the competition for all of these years. And now we've introduced the first wood and blended products with a new flocculating agent that takes hydraulic mulch performance to an even higher level.



Manufacturing advancements have gone hand-in-hand with advancements in Conwed Fibers' ingredients and mulch performance.

■ New **SLIKSHOT™** Makes Mulch Shoot Better, Work Better

Conwed Fibers offers the only wood and blend products in the industry with the added value of ProPlus® SlikShot®. It's a proven flocculant that acts as a lubricant to slicken the hose and prevent hose clogs common with competitors' mulches. This innovative, proprietary formulation helps mulch:

- Shoot easier and farther for improved productivity
- Adhere on impact to provide more uniform ground coverage
- Increase water holding capacity to maximize germination and revegetation
- Increase yield to provide an outstanding value

The addition of SlikShot to our mix is just the latest in a long line of new ingredients designed to deliver optimum performance. No matter what type of mulch — wood, blend or cellulose, our unsurpassed expertise in the industry and commitment to total quality continue to make Conwed Fibers hydraulic mulch second to none.



■ Superior Fibers Deliver Superior Results for Fewer Callbacks

Nothing illustrates Conwed Fibers superior quality than a comparison of our wood fibers to those of our competitors.

Fibers magnified 45 times by independent lab specializing in fiber analysis.

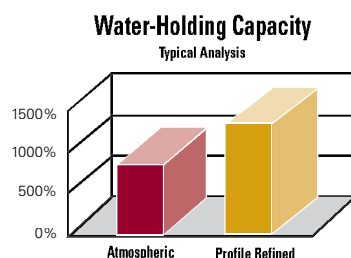


Conwed Fibers' Thermally Refined wood fiber holds 13.5 times its weight in water to promote faster, more complete germination. Say goodbye to callbacks due to washouts or poor turf establishment.



Competitors use atmospherically refined wood fiber which results in up to 50% less water holding capacity and less yield. It's one reason you need extra bales of competitive mulch to equal the performance of Conwed Fibers.

■ Thermally Refined® wood fiber holds up to 50% more water than atmospherically refined wood fiber – a critical factor in seed germination.



Thermally Refined wood utilizes heat and pressure that breaks wood down into more fibrous material with greater surface area that results in mulch with:

- Greater yield – reduces the number of bales you buy and load
- Greater coverage – reduces callbacks due to washouts
- Greater water retention – reduces callbacks due to poor turf establishment
- Greater productivity – eliminates clogs from the coarse fiber found in competitive mulches
- Lower total project cost

Ask your Conwed Fibers representative to conduct a side-by-side demonstration that leaves no doubt: Thermally Refined fiber performs better!



■ The Best Mulch for Any Job

Conwed Fibers® mulch products are ideal for a wide range of applications including turf establishment, golf courses, landfills, highway work, reclamation projects, airports and recreational areas.

■ Convenient 50-lb Bales

BFM



Hydro-Blanket® BFM

- The industry's leading Bonded Fiber Matrix (BFM) from Profile Products delivers a much higher level of performance than any standard hydraulic mulch or competitive BFM on the market today.
- Independent testing and years in the field prove Hydro-Blanket is effective on the steepest, roughest sites — a critical consideration for Phase II compliance.
- Hydro-Blanket is ideal for projects where blankets are impractical and/or too expensive, and conventional hydraulic mulches are ineffective.
- Produced from Thermally Refined® wood fiber and combined with 10% cross-linked hydro-colloid tackifier, Hydro-Blanket applies more easily, promotes faster germination and minimizes sediment and water runoff. Its performance is comparable to blankets, yet its cost is significantly less.

WOOD



Conwed Fibers wood and wood with tack products are ideal choices for critical sites with up to 2:1 slopes. Contractors report that our Thermally Refined fiber delivers up to 30% more yield than competitive products, which means money in their pockets.

Conwed Fibers® 1000 with SlikShot™

- Contains 100% of the highest quality wood fiber.
- Now with SlikShot for better yield, better shooting and better ground coverage.
- Thermally Refined wood fiber delivers up to 50% more water holding capacity than atmospherically refined wood mulches.

Conwed Fibers® 2000

- 100% wood fiber just like Conwed 1000 but with a premium tackifier included.
- Tackifier is a pre-blended high-viscosity, organic guar-gum tackifier.
- Eliminates the extra step and mess of field mixing.

BLEND



Conwed Fibers' EnviroBlend® and EnviroBlend® with Tack combine 100% Thermally Refined wood fiber with the highest quality cellulose mulch in the industry.

- Delivers up to 15% greater yield to contractors versus competitive blend products.
- Covers up to 20% more ground than cellulose and provides superior erosion control and more complete germination without a big jump in price.

EnviroBlend with SlikShot

- The #1 selling blend in the industry.
- Now with SlikShot for better yield, less hose clogging and better ground coverage.

EnviroBlend with Tack

- Same quality wood and cellulose blend as EnviroBlend but with a pre-blended 3% polymer tackifier for a stronger bond and added holding power.
- Eliminates the extra step and mess of field-mixing tackifier.

CELLULOSE

Conwed Fibers® Cellulose Conwed Fibers® Cellulose with Tack

- Exclusive defibration process and new manufacturing process improves water holding capacity by 22%.
- Less percentage of fines greatly reduces maché effect.
- High-quality, clean 100% cellulose fiber mixes in water at an accelerated rate and stays in suspension for more uniform consistency.
- Provides erosion control that is superior to straw for nearly the same cost □ making them ideal for general seeding.
- Darker, richer green color than competing brands gives your work a more professional look from the very beginning.
- Shoots great, allowing hydraulic machinery to run efficiently while providing excellent ground coverage.

Conwed Fibers Cellulose with Tack

- Comes pre-blended with 3% polymer tackifier to increase protection from seed washout and erosion.
- Eliminates the extra step and mess of field-mixing tackifier.

■ We've Got You Covered

No matter what the site or what the type of hydro-mulch equipment you use, wherever bare soil needs to be covered, Conwed Fibers® has the material best suited to the job. Our complete line provides you with every option you need.



■ Jet Spray® with FiberMax™ – Pourable Mulch Flakes Save You Time and Money

- Holds more water for enhanced seed germination and more effective erosion control for more water holding capacity and a stronger bond
- Delivers 50% of FiberMax™ for greater yield and better coverage, which means you buy and load less material
- Flocculating tackifier helps increase yield and gives the mulch matrix greater loft
- Designed specifically for the smaller tank openings of jet-agitated hydraulic machines, loads up to 90% faster than traditional hydraulic mulch
- Increases productivity while delivering professional results



■ Seed Aide® – Perfect for Small Jobs

- Expanding cellulose/wood fiber mulch granules are ideal for small areas
- Can be applied with a high volume drop spreader, large-opening broadcast spreader or by hand
- Great leave behind for touch ups after hydro-seeding to help eliminate callbacks
- Tests prove that granular properties and texture result in greater water absorption and soil coverage than competing brands for superior seed protection
- Organic tackifier reduces soil erosion, water runoff and seed washout



■ Futerra® Revegetative Blankets

- Futerra® F4 Netless® and EnviroNet® blankets are proven to keep soil in place with 99.9% effectiveness, providing better slope protection with faster, thicker vegetative establishment than traditional blankets and nets
- Designed to minimize danger to wildlife or maintenance equipment
- Costs less than half the price of installed sod, including seed and fertilizer
- Takes just one man-hour to lay 3,000 square feet of Futerra versus one man-hour to lay 500 square feet of sod
- Improves site logistics—one truckload of Futerra EnviroNet covers eight acres, compared to a truckload of sod that only covers one-quarter of an acre

So Effective, It's Almost Perfect

	C-Factor ¹	Effectiveness Rating	Soil Loss/Plot ²
Futerra® F4 Netless®	0.001	99.9%	0.4 lb
Futerra® EnviroNet®	0.003	99.7%	1.4 lb
Single-Net Straw Blanket	0.073	92.7%	28.9 lb
Single-Net Excelsior Blanket	0.075	92.5%	29.8 lb
Bare Soil Control	1.000	0.0%	397.0 lb

¹ Test Conditions — UWRL Rainfall Simulator, Slope Gradient — 2.5H:1V
Soil Type — sandy loam, Rainfall Event — 5"/hr, Test Duration — 1 hr

² Plot size 4' by 19.5'

Superior Germination

Futerra® Revegetative Blankets are ideally suited for areas where conventional practices are inadequate for establishing rapid and uniform vegetation. Through its patented design, Futerra is capable of absorbing and holding more water, thereby creating a moisture reservoir that ensures improved germination—nearly double that of straw!

Get all the Facts

Log on to www.profileproducts.com.

■ Put Added Value in Every Tank with ProPlus® Hydro Mulch® Solutions



Conwed Fibers® offers you the industry's most comprehensive line of hydraulic mulch additives to achieve maximum performance under virtually every condition. These accessory products are specifically designed to solve real-world seeding challenges that contractors face every day. Your Conwed Fibers distributor can help you analyze site conditions and recommend the best mix for the job. ProPlus® hydraulic mulch additives include:

Soil Amendments

- NEW Aqua-pHix™ Hydro** – Proprietary liquid formula of non-hazardous and non-corrosive, self buffering, chelated organic and inorganic acids that immediately lower pH of alkaline soils. Dramatically enhances seed germination.

Packaging: 2-2.5 gal jugs per case

- NEW JumpStart™** – Proprietary liquid reformulation with long-term penetrating agent added to humic acid and beneficial bacteria solution. Proven to promote faster germination and vegetation establishment.

Packaging: 2-2.5 gal jugs per case

- NEW BioPrime™** – Granular formulation containing biostimulant, 18-0-0 slow release nitrogen, humic acid and Endo Mycorrhizae. Designed to sustain long-term plant vitality.

Packaging: 40-lb bag

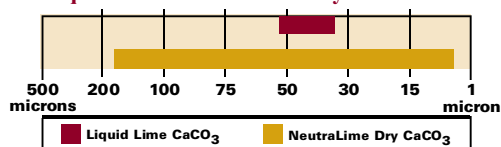
- NeutraLime™ Dry** – Nothing balances soil pH faster – within 6-10 days of application – with the added plus of longer control – up to 18 weeks. Contains 50% more active ingredients than liquid lime.

Packaging: 4-10 lb bags per case, 40-lb bag

- NeutraLime™ Liquid** – Balances soil pH and is effective in 7-10 days.

Packaging: 2-2.5 gal jugs per case

Liquid Lime vs NeutraLime Dry Effectiveness



Graduated particle sizing extends minimum effectiveness from 12 to 18 weeks.

- JumpStart™ 5** – Jump start turf establishment with the industry's most complete package of growth stimulants and added polymers.

Packaging: 4-10 lb bags per case, 40-lb bag

- AquaGel™ A, B, C, D** – Four ways to hold 400 times the water in a variety of applications, making it an excellent water management tool.

Packaging: 6-5 lb pails per case (A and C only), 2-16 lb jugs per case, 25-lb bag and 50-lb drum

Fiber Mulch Amendments

- FiberBond Ultra™** – Enhances the performance of hydraulically applied fiber mulch materials.

Packaging: 4-7.5 lb bags per case

- FiberMax™** – Maximize yield and mulch performance with a stronger bond and the added plus of better shooting.

Packaging: 6-5 lb bags per case

- FiberLock™** – Patented, crimped fibers are your key to increased yield and sure success on the really long slopes.

Packaging: 10-lb case

- SlikColor™** – The only dye marker with the added plus of a slickifier to improve shooting – now in water soluble bags.

Packaging: 2-11 lb jugs per case, 11-1 lb bags per case (water soluble bags)

Soil Stabilization & Dust Control

- TackDown™** – The binder you need to make sure you've got the job nailed.

Packaging: 2-2.5 gal jugs per case, 250 gal tote

- FlocLoc™ (PAM) Dry** – A flocculating soil stabilizer that coagulates suspended soil particles, dropping them from runoff. It reduces soil erosion and improves water infiltration into the seedbed.

Packaging: 6-3 lb jugs per case, 40-lb pail

Tackifiers

- ConTack®** – 100% guar-based organic tackifier reduces the need for reseeded and minimizes soil erosion by stabilizing mulch and straw. It also helps increase the flow and pumping properties of mulch.

Packaging: 8-5 lb bags per case, 50-lb bag

- ConTack® AT** – A starch-based agricultural tackifier, ConTack AT is an economical choice for tacking straw or hay mulch to enhance germination by holding seed in place and preventing washouts.

Packaging: 50-lb bag

- Tacking Agent 3®** – Requires no cure time to be effective! University tests and field use prove it effectively reduces soil erosion and water runoff immediately after hydro-seeding. Also increases the water holding capacity of all types of hydraulic mulches.

Packaging: 4-8 lb bags per case, 25- and 50-lb bag, 7-3 lb bags per case (water soluble bags)

- MPT™ Tack** – A combination of poly-acrylamide and hydro-colloid polymers, MPT is highly viscous and dries to form a strong chemical bond. Ideal for fiber mulch binding, straw and hay mulch tacking.

Packaging: 4-12 lb bags per case, 50-lb bag

Please refer to the ProPlus brochure for specific application rates and conditions.



Conwed Fibers® • www.conwedfibers.com • 800-508-8681 • Fax 847-215-0577

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