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**west virginia department of environmental protection**

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**GENERAL PERMIT REGISTRATION APPLICATION  
ENGINEERING EVALUATION / FACT SHEET**

**BACKGROUND INFORMATION**

Registration No.: G40-C019D  
Plant ID No.: 025-00009  
Applicant: Boxley Aggregates of West Virginia, LLC  
Facility Name: Lewisburg (Alta) Plant  
Location: Lewisburg, Greenbrier County  
SIC / NAICS Code: 1422 / 212312  
Application Type: Modification  
Received Date: January 15, 2015  
Engineer Assigned: Thornton E. Martin Jr.  
Fee Amount: \$1,500.00  
Date Received: January 16, 2015  
Complete Date: February 13, 2015  
Applicant Ad Date: January 21, 2015  
Newspaper: *The West Virginia Daily News*  
UTM's: Easting: 538.9 km Northing: 4192.3 km Zone: 17  
Description: Applicant is proposing to modify a non-metallic mineral processing plant in Lewisburg, Greenbrier County, WV. A stand alone aggregate washing plant will be installed. This washing plant is being rented for (6) months primarily to enable Boxley to supply aggregates to the Bluestone dam project located in Hinton, WV. This plant resides adjacent to Boxley Concrete Products of VA, LLC (025-00009), Lewisburg Plant, Permit G50-B083.

**PROCESS DESCRIPTION**

The Lewisburg limestone quarry owned and operated by Boxley Aggregates of West Virginia, LLC (Boxley), near Lewisburg in Greenbrier County, West Virginia processes quarried limestone by crushing and screening to develop a saleable product. This permit modification will allow Boxley to add a small portable wash plant (rented) to supply stone to the Bluestone Dam project in Hinton, WV.

**Main Plant**

Stone is hauled from the pit to the jaw hopper and grizzly feeder (MP-H1/UL-WS2) through TP-1/UL-MD. MP-H1/UL-WS2 transfers the larger stone to jaw crusher (MP-JC1/CS-PW2) through TP-3/TC-WS4. The smaller stone falls through the grizzly bars (MP-VGF1/CS-PW1) and is transferred to belt MP-BC1/WS6 through TP-2/TC-WS3. The stone is transferred to MP-BC1/WS6 from MP-JC1/CS-PW2 through transfer point TP-4/TC-WS5. MP-BC1/WS6 transfers the material

onto MP-BC2/WS8 through transfer TP-5/TC-WS7. MP-BC2/WS8 conveys the material to transfer point TP-6/TC-WS9 where the material is transferred onto a triple deck screen (MP-VS1/CS-PW3).

The oversize rip rap material from MP-VS1/CS-PW3 is transferred through TP-7/TC-WS10 to belt conveyor MP-BC7/WS11. MP-BC7/WS11 conveys the rip rap material to stockpile OS-K/HR-WS1 through TP-8/TC-WS12. Material from the second deck of MP-VS1/CS-PW3 can be transferred in (2) directions. Firstly, material can be transferred through TP-9/TC-WS13 to MP-BC8/WS14 and on through TP-10/TC-WS15 to horizontal shaft impact crusher MP-HSI1/CS-FW1 for additional sizing. Secondly, this material can be transferred through TP13/TC-WS19 to MP-BC6/WS20, on through TP-14/TC-WS21 to stockpile OS-J/HR-WS1. Material from the third deck of MP-VS1/CS-PW3 can also be transferred in (3) directions. Firstly, material can be sent to OS-K(HR-WS1) via TP-7/TC-WS10, MP-BC7/WS11 and TP-8/TC-WS12. Secondly, this material can be sent to stockpile OS-A/HR-WS1 via TP-16/TC-WS24, MP-BC3/WS32, TP-21/TC-WS33, MP-BC4/WS34, TP-22/TC-WS35, MP-BC5/WS38, TP-24/TC-WS38A. Thirdly, this material can be sent to horizontal impact crusher MP-HSI1 through TP-16/TC-WS24, MP-BC3/WS32, TP-21/TC-WS33, MP-BC4/WS34, TP-22/TC-WS35, MP-BC5A/WS36, TP-23/TC-WS37, MP-BC8/WS14 and TP-10/TC-WS15. The smaller material from MP-VS1/CS-PW3 is transferred to MP-BC4/WS34 through TP-20/TC-WS31, MP-BC3/WS32 and TP-21/TC-WS33. MP-BC4/WS34 can transfer material to stockpile OS-A through TP-22/TC-WS35 MP-BC5/WS38 and TP-24/TC-WS38A or to horizontal impact crusher MP-HSI1 through TP-22/TC-WS35, MP-BC5A/WS36, TP-23/TC-WS37, MP-BC8/WS14 and TP-10/TC-WS15. Mid-sized and smaller stone that passes through MP-HSI1/CS-FW1 is transferred to the second / third triple deck screens MP-VS2/CS-PW4 and MP-VS3/CS-PW5 through the following series: TP-11/TC-WS16, MP-BC9/WS17, TP-12/TC-WS18 or TP-43/TC-WS65.

MP-BIN3/PW9 is fed by a front end loader through TP-57/MD or as previously mentioned, by MP-BC5/WS38 through TP-24/TC-WS38A. MP-BIN3/PW9 can transfer material to MP-VS2/CS-PW4 and MP-VS3/CS-PW5 through TP-58/TC-WS85, MP-BC9A/WS86, TP-59/TC-WS86A, MP-BC9/WS17, TP-12/TC-WS18 or TP-43/TC-WS65. MP-BIN3/PW9 can also transfer material to MP-BIN1/PW7 through TP-58/TC-WS85, MP-BC9A/WS86, TP-60/TC-WS88, MP-BC17/WS40 and TP-26/TC-WS41.

The oversize material received by MP-VS2/CS-PW4 is transferred to bin MP-BIN1/PW7 through TP-25/TC-WS39, MP-BC17/WS40 and TP-26/TC-WS41. The midsized material from second deck of MP-VS2/CS-PW4 is transferred to stockpile OS-B(HR-WS1) via TP-27/TC-WS42, MP-BC14/WS43 and TP-28/TC-WS44. The material from the third deck of MP-VS2/CS-PW4 is transferred to MP-BIN1 through TP-25/TC-WS39, MP-BC17/WS40 and TP-26/TC-WS41 or to MP-VS4/CS-PW6 through TP-29/TC-WS45, MP-BC13/WS47 and TP-30/TC-WS47. The smaller material from MP-VS2/CS-PW4 is transferred to stockpile OS-D(HR-WS1) through TP-31/TC-WS48, MP-BC10/WS49, TP-32/TC-WS50, MP-BC11/WS51 and TP-33/TC-WS52.

Material in MP-BIN1/PW7 is transferred through TP-34/TC-WS53 onto belt conveyor (MP-BC17A/WS40). MP-BC17A/WS40 transfers the material through TP-35/TC-WS55 to a vertical shaft impact crusher (MP-VSI1/CS-FW2). The discharge from MP-VSI1/CS-FW2 is transferred back to MP-VS2/CS-PW4 and MP-VS3/CS-PW5 for rescreening through the following stages: TP-36/TC-WS56, MP-BC18/WS29, TP-19/TC-WS30, MP-BC9/WS17, TP-12/TC-WS18 and TP-43/TC-WS65.

The oversize material received by MP-VS3/CS-PW5 is transferred to bin MP-BIN2/PW8 through TP-44/TC-WS66, MP-BC25/WS67 and TP-45/TC-WS67. The midsized material from second deck of MP-VS3/CS-PW5 is transferred to bin MP-BIN2/PW8 through TP-44/TC-WS66, MP-BC25/WS67 and TP-45/TC-WS67 or to OS-C(HR-WS1) through TP-46/TC-WS68, MP-

BC24/WS69 and TP-47/TC-WS70. The material from the third deck of MP-VS3/CS-PW5 is transferred to bin MP-BIN2/PW8 through TP-44/TC-WS66, MP-BC25/WS67 and TP-45/TC-WS67 or to OS-F(HR-WS1) through TP-48/TC-WS71, MP-BC21/WS72, TP-49/TC-WS73, MP-BC22/WS74 and TP-50/TC-WS75. The smaller material from MP-VS3/CS-PW5 is transferred to stockpile OS-E(HR-WS1) through TP-51/TC-WS76, MP-BC19/WS77, TP-52/TC-WS78, MP-BC20/WS79 and TP-53/TC-WS80.

Material in MP-BIN2/PW8 is transferred through TP-54/TC-WS81 onto belt conveyor (MP-BC25A/WS82). MP-BC25A/WS82 transfers the material through TP-55/TC-WS83 to a vertical shaft impact crusher (MP-VSI2/CS-FW3). The discharge from MP-VSI2/CS-FW3 is transferred back to MP-VS2/CS-PW4 and MP-VS3/CS-PW5 for rescreening through the following stages: TP-56/TC-WS84, MP-BC18/WS29, TP-19/TC-WS30, MP-BC9/WS17, TP-12/TC-WS18 and TP-43/TC-WS65.

The oversize material received by MP-VS4/CS-PW6 is transferred to stockpile OS-G(HR-WS1) through TP-37/TC-WS57, MP-BC15/WS58 and TP-38/TC-WS59. The midsized material from second deck of MP-VS4/CS-PW6 is transferred to stockpile OS-H(HR-WS1) through TP-39/TC-WS60, MP-BC16/WS61 and TP-40/TC-WS62. The smaller material from MP-VS4/CS-PW6 is transferred to stockpile OS-I(HR-WS1) through TP-41/TC-WS63. Stockpiles OS-A, OS-B, OS-C, OS-D, OS-E, OS-F, OS-G, OS-H, OS-I, OS-J and OS-K are loaded to truck by end loaders via TP-70/MD.

There are twenty one remote stockpiles (OS-L, OS-M, OS-N through OS-KK) controlled by the water truck HR-WS1. These stockpiles receive material from trucks via TP-71/MD (Main Plant Material) and TP73/MD (Wash Plant Material). The material is stored until it is loaded into trucks and shipped offsite via TP-72/MD.

### **Existing Wash Plant**

Material enters the wash plant by end loader to dump hopper WP-H1/UL-WS89 through TP-80/UL-MD. An under bin reclaim belt conveyor WP-BC1/WS91 receives the material through TP-81/TC-WS90. WP-BC1/WS91 transfers the material to triple deck screen WP-VS1/CS-PW10 through TP-82/TC-WS92. (Wet Process) The larger material from the first deck is transferred to stockpile OS-L(HR-WS1) through TP-83/TC-WS93, WP-BC2/WS94 and TP-84/TC-WS95 or to stockpile OS-M(HR-WS1) through TP-85/TC-WS96, WP-BC3/WS97 and TP-86/TC-WS98. Material from the second deck is transferred to stockpile OS-M(HR-WS1) through TP-85/TC-WS96, WP-BC3/WS97 and TP-86/TC-WS98 or to stockpile OS-L(HR-WS1) through TP-83/TC-WS93, WP-BC2/WS94 and TP-84/TC-WS95. Material from the third deck is transferred to stockpile OS-N(HR-WS1) through TP-87/TC-WS99, WP-BC4/WS100 and TP-88/TC-WS101 or to stockpile OS-L(HR-WS1) through TP-83/TC-WS93, WP-BC2/WS94 and TP-84/TC-WS95. The smaller material from WP-VS1/CS-PW10 is transferred through TP-89/TC-WS102 to screw conveyor WP-SC1/WS103. WP-SC1/WS103 feeds belt conveyor WP-BC5/WS105 that feeds stockpile OS-O (HR-WS1) through TP-91/TC-WS106. Wash Plant stockpiles are loaded into trucks TP-73/MD.

This material may also enter the wash plant via end loader into dump hopper WP-H2/UL-WS110 through TP-80/UL-MD. An under bin reclaim belt conveyor WP-BC1A/WS112 receives the material through TP-94/TC-WS111. WP-BC1A/WS112 transfers the material to a vertical impact crusher WP-VS1/CS-FW4 through TP-95/TC-WS113. Vertical shaft impact crusher WP-VSI/CS-FW4 discharges through TP-96/TC-WS114 to belt conveyor WP-BC1B/TC-WS115 which transfers

the material to a triple deck screen WP-VS1/CS-PW10 through TP-82/TC-WS92. (Wet Process) The larger material from the first deck is transferred to stockpile OS-L(HR-WS1) through TP-83/TC-WS93, WP-BC2/WS94 and TP-84/TC-WS95 or to stockpile OS-M(HR-WS1) through TP-85/TC-WS96, WP-BC3/WS97 and TP-86/TC-WS98. Material from the second deck is transferred to stockpile OS-M(HR-WS1) through TP-85/TC-WS96, WP-BC3/WS97 and TP-86/TC-WS98 or to stockpile OS-L(HR-WS1) through TP-83/TC-WS93, WP-BC2/WS94 and TP-84/TC-WS95. Material from the third deck is transferred to stockpile OS-N(HR-WS1) through TP-87/TC-WS99, WP-BC4/WS100 and TP-88/TC-WS101 or to stockpile OS-L(HR-WS1) through TP-83/TC-WS93, WP-BC2/WS94 and TP-84/TC-WS95. The smaller material from WP-VS1/CS-PW10 is transferred through TP-89/TC-WS102 to screw conveyor WP-SC1/WS103. WP-SC1/WS103 feeds belt conveyor WP-BC5/WS105 that feeds stockpile OS-O (HR-WS1) through TP-91/TC-WS106. Wash Plant stockpiles are loaded into trucks TP-73/MD.

Belt conveyor WP-BC2/WS94 can be reversed to discharge material onto new belt conveyor WP-BC2A/WS108 through TP-92/TC-WS107. WP-BC2A/WS108 discharges back into the new dump hopper WP-H2/UL-WS110 through TP-93/TC-WS109.

### **Proposed Portable Wash Plant**

A front end loader will transfer raw material into the feed hopper (PP-FH1) through TP-1/UL-WS. The belt feeder (PP-BF1) transfers the feed to (PP-BC1) through TP-2/TC-WS2. (PP-BC1) conveys the material through transfer point TP-3/TC-WS3 onto a triple deck screen (PP-VS1). The oversized material on the first deck of the vibrating screen (PP-VS1) is moved through TP-4/TC-WET to belt conveyor (PP-BC2). The material conveyed on belt (PP-BC2) is transferred through TP-5/TC-WET to stockpile PP-OS-A/HR-WS1. The material on the second deck of the vibrating screen (PP-VS1) is moved through TP-6/TC-WET to belt conveyor (PP-BC3). The material conveyed on belt (PP-BC3) is transferred through TP-7/TC-WET to stockpile PP-OS-B/HR-WS1. The material on the third deck of the vibrating screen (PP-VS1) is moved through TP-8/TC-WET to belt conveyor (PP-BC4). The material conveyed on belt (PP-BC4) is transferred through TP-9/TC-WET to stockpile PP-OS-C/HR-WS1. The material that passes through the third deck of vibrating screen (PP-VS1) is moved through TP-10/TC-WET to belt conveyor (PP-BC5). The material conveyed on belt (PP-BC5) is transferred through TP-11/TC-WET to either stockpile PP-OS-D/HR-WS1 or the quarry pit. The front end loader will move and loadout stockpile material as needed to trucks or existing stockpiles. Once material is introduced to PP-VS1, the material is saturated through sizing and stockpiling.

### **Trommel Plant**

This plant consists of a dump hopper, rotary screen and belt conveyor. Stripping material is introduced into the dump hopper TROM-H1/UL-WS126 via a haul truck or frontend loader. Material enters the rotary screen TROM-RS1/WS127 through TP-106/TC-WS127. -4" x +0" material is transferred to stockpile HH (HR-WS1) through TP-107/TC-WS128, TROM-BC1/ WS129 and TP-108/TC-WS130. -11" x +4" material is transferred to stockpile II (HR-WS1) through TP-109/TC-WS131, while the -24" x +11" material is transferred to stockpile JJ (HR-WS1) through TP-110/TC-WS132. The oversize +24" discharges from the end of the screen into stockpile KK (HR-WS1) through TP-111/TC-WS133.

Boxley Aggregates of West Virginia, LLC. proposes to utilize the following equipment at the Lewisburg facility:

Table 1: Equipment List

Source ID No.	Emission Unit Description	Design Capacity		Control Device	Month/Year Constructed, Reconstructed, or Modified
		TPH	TPY x 10 <sup>6</sup>		
<b>Main Plant</b>					
MP-JC1	Primary Jaw Crusher – TelSmith	450	2.250	CS-PW2	1984
MP-HS11	Horizontal Impact Crusher – Hazemag	390	1.950	CS-FW1	*
MP-VS11	Vertical Shaft Impact Crusher – Canica	240	1.200	CS-FW2	*
MP-VS12	Vertical Shaft Impact Crusher – ISC	200	1.000	CS-FW3	*
MP-VS1	Triple Deck Screen – Conwell	600	3.000	CS-PW3	**
MP-VS2	Triple Deck Screen – Deister	615	3.075	CS-PW4	*
MP-VS3	Triple Deck Screen – Deister	615	3.075	CS-PW5	*
MP-VS4	Triple Deck Screen – Deister	450	2.250	CS-PW6	*
MP-VGF1	Single Deck Screen – TelSmith	600	3.000	CS-PW1	*
MP-H1	Truck Dump Hopper – raw material		3.000	UL-WS2	*
MP-BIN1	Transfer Bin – 100 tons -- sized material		1.200	PW7	*
MP-BIN2	Transfer Bin – 25 tons -- sized material		1.000	PW8	*
MP-BIN3	Transfer Bin – 100 tons – sized material		1.050	PW9	*
MP-BC1	Transfer Belt – raw material	600	3.000	WS6	1984
MP-BC2	MP-VS1 Feed Belt – raw material	600	3.000	WS8	1984
MP-BC3	Transfer Belt – sized material	210	1.050	WS32	1984
MP-BC4	Transfer Belt – sized material	210	1.050	WS34	1984
MP-BC5	Transfer/OS-A Feed Belt – sized material	210	1.050	WS38	1984
MP-BC5A	Transfer Belt – sized material	210	1.050	WS36	*
MP-BC6	Transfer Belt – sized material	100	0.500	WS20	1984
MP-BC7	OS-I Feed Belt – sized material	390	1.950	WS22	1984
MP-BC8	MP-JC1 Feed Belt – raw and sized material	390	1.950	WS14	1984
MP-BC9	MP-VS1/VS2 Feed Belt – sized material	922	4.610	WS17	1984
MP-BC9A	Transfer Belt – sized material	210	1.050	WS86	*
MP-BC10	Transfer Belt – sized material	90	0.450	WS49	1984
MP-BC11	OS-D Belt – sized material	90	0.450	WS51	1984
MP-BC13	MP-VS4 Feed Belt – sized material	450	2.250	WS46	1984
MP-BC14	OS-B Feed Belt – sized material	150	0.750	WS43	1984
MP-BC15	OS-G Feed Belt – sized material	150	0.750	WS58	1984
MP-BC16	OS-H Feed Belt – sized material	150	0.750	WS61	1984
MP-BC17	MP-BIN1 Feed Belt – sized material	240	1.200	WS40	1984
MP-BC17A	MP-VS11 Feed Belt – sized material	240	1.200	WS54	*
MP-BC18	Transfer Belt – sized material	450	2.250	WS29	1984
MP-BC19	Transfer Belt – sized material	135	0.675	WS77	1984
MP-BC20	OS-E Feed Belt – sized material	135	0.675	WS79	1984
MP-BC21	Transfer Belt – sized material	200	1.000	WS72	1984
MP-BC22	OS-F Feed Belt – sized material	200	1.000	WS74	1984
MP-BC24	OS-C Feed Belt – sized material	55	0.275	WS69	1984
MP-BC25	MP-BIN2 Feed Belt – sized material	200	1.000	WS67	1984
MP-BC25A	MP-VS12 Feed Belt – sized material	200	1.000	WS82	*
<b>Wash Plant</b>					
WP-VS11	Vertical Shaft Impact Crusher – Simpco	250	1.250	CS-FW4	**
WP-VS1	Triple Deck Screen – Conwell	250	1.250	CS-PW10	**
WP-H1	Truck Dump Hopper – 50 tons – sized material		1.250	UL-WS89	*
WP-H2	Truck Dump Hopper – 50 tons – sized material		1.250	UL-WS110	0
WP-BC1	WP-VS1 Feed Belt – sized material	250	1.250	WS91	1984
WP-BC1A	Transfer Belt – sized material	250	1.250	WS112	**
WP-BC1B	Transfer Belt – sized material	250	1.250	WS115	**
WP-BC2	OS-L Feed Belt – sized material	250	1.250	WS94	1984
WP-BC2A	Transfer Belt – sized material	250	1.250	WS108	**
WP-BC3	OS-M Feed Belt	250	1.250	WS97	1984
WP-BC4	OS-N Feed Belt	175	0.875	WS100	1984
WP-SC1	Transfer Screw Conveyor – sized material	175	0.875	WS103	1984

Source ID No.	Emission Unit Description	Design Capacity		Control Device	Month/Year Constructed, Reconstructed, or Modified
		TPH	TPY x 10 <sup>6</sup>		
WP-BC5	OS-O Feed Belt – sized material	175	0.875	WS105	1984
<b>Portable Wash Plant</b>					
PP-VS1	Astec Triple Deck Screen	250	0.625	PW	2015
PP-FH1	Feed Hopper	250	0.625	WS	2015
PP-BF1	Belt Feeder	250	0.625	WS	2015
PP-BC1	Belt Conveyor	250	0.625	WS	2015
PP-BC2	Belt Conveyor	150	0.375	N	2015
PP-BC3	Belt Conveyor	150	0.375	N	2015
PP-BC4	Belt Conveyor	150	0.375	N	2015
PP-BC5	Belt Conveyor	150	0.375	N	2015
PP-ENG1	Caterpillar C4.4, Diesel Engine, 2011, Tier III	127 bhp @ 2200 rpm (2500hrs/yr)		N	2015
PP-OS-A	Open Stockpile – 4,000 ft <sup>2</sup> maximum base area	2,000 tons	0.375	HR-WS1	2015
PP-OS-B	Open Stockpile – 4,000 ft <sup>2</sup> maximum base area	2,000 tons	0.375	HR-WS1	2015
PP-OS-C	Open Stockpile – 4,000 ft <sup>2</sup> maximum base area	2,000 tons	0.375	HR-WS1	2015
PP-OS-D	Open Stockpile – 4,000 ft <sup>2</sup> maximum base area	2,000 tons	0.375	HR-WS1	2015
<b>Trommel Plant</b>					
TROM-RS1	Rotary Screen – Trommel	500	2.500	TC-WS127	2011
TROM-BC1	Transfer Belt – raw material	500	2.500	WS128	2011
<b>Open Stockpiles</b>		<b>(Tons)</b>			
OS-A	Open Stockpile – 88,722 ft <sup>2</sup> maximum base area	142,610	1.050	HR-WS1	
OS-B	Open Stockpile – 7,850 ft <sup>2</sup> maximum base area	4,500	0.750	HR-WS1	
OS-C	Open Stockpile – 7,850 ft <sup>2</sup> maximum base area	4,500	0.275	HR-WS1	
OS-D	Open Stockpile – 5,024 ft <sup>2</sup> maximum base area	2,800	0.450	HR-WS1	
OS-E	Open Stockpile – 5,024 ft <sup>2</sup> maximum base area	2,800	0.675	HR-WS1	
OS-F	Open Stockpile – 2,826 ft <sup>2</sup> maximum base area	900	1.000	HR-WS1	
OS-G	Open Stockpile – 2,826 ft <sup>2</sup> maximum base area	900	0.750	HR-WS1	
OS-H	Open Stockpile – 2,826 ft <sup>2</sup> maximum base area	900	0.750	HR-WS1	
OS-I	Open Stockpile – 150 ft <sup>2</sup> maximum base area	125	0.750	HR-WS1	
OS-J	Open Stockpile – 2,826 ft <sup>2</sup> maximum base area	900	0.500	HR-WS1	
OS-K	Open Stockpile – 5,255 ft <sup>2</sup> maximum base area	2,000	1.950	HR-WS1	
OS-L	Open Stockpile – 2,826 ft <sup>2</sup> maximum base area	900	1.250	HR-WS1	
OS-M	Open Stockpile – 2,826 ft <sup>2</sup> maximum base area	900	1.250	HR-WS1	
OS-N	Open Stockpile – 2,826 ft <sup>2</sup> maximum base area	900	0.875	HR-WS1	
OS-O	Open Stockpile – 34,199 ft <sup>2</sup> maximum base area	39,500	0.875	HR-WS1	
OS-P	Open Stockpile – 26,910 ft <sup>2</sup> maximum base area	20,000	0.500	HR-WS1	
OS-Q	Open Stockpile – 24,466 ft <sup>2</sup> maximum base area	20,000	0.500	HR-WS1	
OS-R	Open Stockpile – 30,728 ft <sup>2</sup> maximum base area	19,000	1.950	HR-WS1	
OS-S	Open Stockpile – 65,539 ft <sup>2</sup> maximum base area	83,000	1.050	HR-WS1	
OS-T	Open Stockpile – 27,365 ft <sup>2</sup> maximum base area	22,500	0.750	HR-WS1	
OS-U	Open Stockpile – 27,294 ft <sup>2</sup> maximum base area	28,000	1.050	HR-WS1	
OS-V	Open Stockpile – 33,813 ft <sup>2</sup> maximum base area	34,000	1.000	HR-WS1	
OS-W	Open Stockpile – 18,308 ft <sup>2</sup> maximum base area	10,000	1.000	HR-WS1	
OS-X	Open Stockpile – 85,164 ft <sup>2</sup> maximum base area	130,000	1.050	HR-WS1	
OS-Y	Open Stockpile – 38,443 ft <sup>2</sup> maximum base area	41,000	0.750	HR-WS1	
OS-Z	Open Stockpile – 51,043 ft <sup>2</sup> maximum base area	51,000	0.875	HR-WS1	
OS-AA	Open Stockpile – 4,616 ft <sup>2</sup> maximum base area	1,500	0.750	HR-WS1	
OS-BB	Open Stockpile – 6,624 ft <sup>2</sup> maximum base area	2,500	1.000	HR-WS1	
OS-CC	Open Stockpile – 26,883 ft <sup>2</sup> maximum base area	17,000	0.875	HR-WS1	
OS-DD	Open Stockpile – 24,095 ft <sup>2</sup> maximum base area	17,000	1.000	HR-WS1	
OS-EE	Open Stockpile – 27,662 ft <sup>2</sup> maximum base area	26,000	0.675	HR-WS1	
OS-FF	Open Stockpile – 32,862 ft <sup>2</sup> maximum base area	32,000	0.275	HR-WS1	
OS-GG	Open Stockpile – 24,631 ft <sup>2</sup> maximum base area	22,500	1.050	HR-WS1	
OS-HH	Open Stockpile – 2,552 ft <sup>2</sup> maximum base area	1,000	1.250	HR-WS1	
OS-II	Open Stockpile – 2,552 ft <sup>2</sup> maximum base area	1,000	0.625	HR-WS1	
OS-JJ	Open Stockpile – 2,552 ft <sup>2</sup> maximum base area	1,000	0.625	HR-WS1	

Source ID No.	Emission Unit Description	Design Capacity		Control Device	Month/Year Constructed, Reconstructed, or Modified
		TPH	TPY x 10 <sup>6</sup>		
OS-KK	Open Stockpile – 2,552 ft <sup>2</sup> maximum base area	1,000	0.625	HR-WS1	

\* denotes installation or modification date of later than 1983 but earlier than April 22, 2008 (exact date unknown)

\*\* denotes installation or modification date of later than April 22, 2008 (exact date unknown)

### SITE INSPECTION

John Money Penny of the Division of Air Quality Enforcement Section performed a targeted, full on-site inspection on October 09, 2014. The facility was found to be in compliance and meets all G40-C siting criteria.

Directions: On Route 60, 3/4 mile north of I-64, exit 161.

### ESTIMATE OF EMISSIONS BY REVIEWING ENGINEER

Fugitive emissions from the facility include particulate emissions from haulroads, stockpiles, and work areas. The haulroad surfaces are coarse gravel and are used by trucks, endloaders, and company personnel. Water is applied to the haulroads as needed via a water truck. Water is also applied to the work areas around the stockpiles and plant by the water truck to control particulate emissions. The stockpiles will be controlled by the water truck as needed. Usually the stockpiles contain a sufficient amount of moisture from upstream water sprays to minimize particulate emissions.

Fugitive emissions from the operation of the portable wash plant include possible particulate emissions from the work area, operation and stockpiles. To control particulate emissions, the work area surfaces and stockpiles are watered as needed using a water truck. Water is also applied at the hopper, belt feeder and BC1 / VS1 transfers as needed. Once the material is transferred to the washing screen it becomes saturated and remains so through stockpiling.

The water sprays and water supply lines will be protected from freezing (winterized) by the use of thermal protection: insulation and/or heat taping of exposed areas as needed. In the event that the thermal protection or other methods of winterizing do not prevent freezing, additives may be mixed into the water for freeze proofing.

Emission calculations for transfer points, crushing and screening, open stockpiles, and unpaved haulroads are based on AP-42 "Compilation of Air Pollution Emission Factors". Control efficiencies were applied based on the Reference Document for General Permit G40-C. The estimated emission calculations were performed by the applicant using the General Permit G40-C Excel emission calculation spreadsheet and were checked for accuracy and completeness by the writer.

Table 2: Current facility emissions (G40-B019C):

Emission Source Boxley Aggregates of West Virginia, LLC G40-C019C	Controlled PM Emissions		Controlled PM <sub>10</sub> Emissions	
	lb/hour	TPY	lb/hour	TPY
<b>Fugitive Emissions</b>				
Stockpile Emissions	0.73	3.16	0.33	1.49
Unpaved Haulroad Emissions	178.38	400.45	52.65	118.20
<b>Fugitive Emissions Total</b>	<i>179.11</i>	<i>403.61</i>	<i>52.98</i>	<i>119.69</i>
<b>Point Source Emissions</b>				
Equipment Emissions	17.66	44.16	6.23	15.58
Transfer Point Emissions	48.56	121.40	22.40	55.99
<b>Point Source Emissions Total (PTE)</b>	<i>66.22</i>	<i>165.56</i>	<i>28.63</i>	<i>71.57</i>
<b>FACILITY EMISSIONS TOTAL</b>	<b>245.33</b>	<b>569.17</b>	<b>81.61</b>	<b>191.26</b>

Emissions from the 2011 Caterpillar C4.4 diesel engine are EPA certified to meet Tier III standards. Estimated emissions for the diesel engine were derived using Manufacturers Data and are outlined in the following table:

Table 3: Engine Emissions (Caterpillar C4.4)

Source	Pollutant	Maximum Hourly Emissions (lb/hr)	Maximum Annual Emissions (tons/yr)
PP-ENG1	Carbon Monoxide	1.05	1.32
	Nitrogen Oxides	0.77	0.96
	Sulfur Dioxide	N/A	N/A
	Total Particulate Matter	0.09	0.12
	PM <sub>10</sub>	0.09	0.12
	Volatile Organic Compounds	0.84	1.05
	Formaldehyde	N/A	N/A

The proposed modification will result in the estimated potential to discharge controlled emissions of 20.93 TPY of PM (particulate matter), 6.60 TPY of PM<sub>10</sub> (particulate matter less than 10 microns in diameter), 1.32 TPY of CO (carbon monoxide), 1.05 TPY of VOC (volatile organic compounds). The applicant published the proposed emissions for this modification including emissions associated with the diesel engine, however, particulate matter emissions of 0.09 lbs/hr and 0.12 tons/yr were omitted from the legal notice in error. The following table reflects the corrected proposed facility emissions including PM emissions from the diesel engine.

Table 3a: Total facility emissions with proposed changes included (G40-C019D):

Emission Source Boxley Aggregates of West Virginia, LLC G40-C019D	Controlled PM Emissions		Controlled PM <sub>10</sub> Emissions	
	lb/hour	TPY	lb/hour	TPY
<b>Fugitive Emissions</b>				
Stockpile Emissions	0.74	3.18	0.33	1.50
Unpaved Haulroad Emissions	193.50	419.35	57.11	123.78
<b>Fugitive Emissions Total</b>	<b>194.24</b>	<b>422.53</b>	<b>57.44</b>	<b>125.28</b>
<b>Point Source Emissions</b>				
Equipment Emissions	17.75	44.28	6.32	15.70
Transfer Point Emissions	50.07	123.29	23.11	56.88
<b>Point Source Emissions Total (PTE)</b>	<b>67.82</b>	<b>167.57</b>	<b>29.43</b>	<b>72.58</b>
<b>FACILITY EMISSIONS TOTAL</b>	<b>262.06</b>	<b>590.10</b>	<b>86.87</b>	<b>197.86</b>

The neighboring facilities of Boxley Concrete Products of VA, Inc. is a ready mix concrete batch plant having an estimated potential to discharge controlled emissions (not including fugitive emissions from haul roads) of 15.20 pounds per hour and 3.40 TPY of PM (particulate matter), of which 7.49 pounds per hour and 1.66 TPY are PM<sub>10</sub> (particulate matter less than 10 microns in diameter). Refer to the following table for a complete summary of the this facility's emissions:

Table 4: Boxley Concrete Products of VA, Inc. (G50-B083):

Emission Source Boxley Concrete Products of VA, Inc. G50-B083	Controlled PM Emissions		Controlled PM <sub>10</sub> Emissions	
	lb/hour	TPY	lb/hour	TPY
<b>Fugitive Emissions</b>				
Stockpile Emissions	0.13	0.58	0.06	0.27
Unpaved Haulroad Emissions	72.87	13.66	21.51	4.03
Paved Haulroad Emissions	0.00	0.00	0.00	0.00
<b>Fugitive Emissions Total</b>	<b>73.00</b>	<b>14.24</b>	<b>21.57</b>	<b>4.30</b>
<b>Point Source Emissions</b>				
Equipment Emissions	0.00	0.00	0.00	0.00
Transfer Point Emissions	15.07	2.82	7.43	1.39
<b>Point Source Emissions Total (PTE)</b>	<b>15.07</b>	<b>2.82</b>	<b>7.43</b>	<b>1.39</b>
<b>FACILITY EMISSIONS TOTAL</b>	<b>88.06</b>	<b>17.07</b>	<b>29.00</b>	<b>5.70</b>

Boxley Concrete Products of VA, Inc. and Boxley Aggregates of West Virginia, LLC plants meet the definition of "Building, Structure, Facility, or Installation" in 45CSR14.2.13 and "Major Source" in 45CSR30.2.26 and shall be considered as one facility for determining applicability to 45CSR14 (PSD) and 45CSR30 (Title V). Therefore, Boxley Concrete Products of VA, Inc. and Boxley Aggregates of West Virginia, LLC's plant emissions shall be combined when determining applicability.

The facilities will have a combined estimated potential to discharge controlled emissions of 607.16 TPY of PM (particulate matter), of which 203.55 TPY are PM<sub>10</sub> (particulate matter less than 10 microns in diameter). The facilities will have a combined estimated potential to emit (point source emissions only) of 170.39 TPY of PM (particulate matter), of which 73.97 TPY are PM<sub>10</sub> (particulate matter less than 10 microns in diameter).

Refer to the following table for a summary of the Boxley Concrete Products of VA, Inc. and Boxley Aggregates of West Virginia, LLC's combined emissions:

Table 5: Facility emissions for G40-C019D and G50-B083 combined:

Emission Source  G40-B019D and G50-B083  Combined	Controlled		Controlled	
	PM Emissions		PM <sub>10</sub> Emissions	
	lb/hour	TPY	lb/hour	TPY
<b>Fugitive Emissions</b>				
Stockpile Emissions	0.87	3.76	0.39	1.77
Unpaved Haulroad Emissions	266.37	433.01	78.62	127.81
<b>Fugitive Emissions Total</b>	<i>267.24</i>	<i>436.77</i>	<i>79.01</i>	<i>129.58</i>
<b>Point Source Emissions</b>				
Equipment Emissions	17.75	44.28	6.32	15.70
Transfer Point Emissions	65.14	126.11	30.54	58.27
<b>Point Source Emissions Total (PTE)</b>	<i>82.89</i>	<i>170.39</i>	<i>36.86</i>	<i>73.97</i>
<b>FACILITY EMISSIONS TOTAL</b>	<b>350.13</b>	<b>607.16</b>	<b>115.87</b>	<b>203.55</b>

### GENERAL PERMIT ELIGIBILITY

Boxley's proposed modifications at their non-metallic minerals processing facility is eligible for a Class II General Permit registration because of the following:

- It has a Standard Industrial Classification (SIC) code of 1422;
- It has a raw material process design capacity (input) of less than or equal to 1,200 tons per hour or 8,760,000 tons per year (General Permit Throughput Eligibility Limit);
- It is not a major source as defined in 45CSR14 or 45CSR30;
- It is not subject to 45CSR2, 45CSR3, 45CSR5, 45CSR14, or 45CSR19;
- It does not require an individual General Permit review process and/or individual General Permit provisions to address the emission of a regulated pollutant other than particulate matter or to incorporate regulatory requirements other than those established by 45CSR7, 45CSR13, 45CSR16, 45CSR17, and the New Source Performance Standards of 40 CFR 60, Subpart OOO;
- It is not located in an underground mine;
- It is not located in or will not significantly impact the area of Brooke County west of State Route 2, north of an extension of the southern boundary of Steubenville Township in Jefferson County, Ohio and south of the Market Street Bridge;
- It is not located within the boundaries of or will not significantly impact the Weirton PM10 nonattainment area; or
- It is not located in or will not significantly impact an area, which has been determined to be a PM10 maintenance or nonattainment area.

## REGULATORY APPLICABILITY

The modification proposed is subject to the following state and federal rules:

**45CSR7**      *To Prevent and Control Particulate Matter Air Pollution From Manufacturing Processes and Associated Operations*

The facility is subject to the requirements of 45CSR7 because it meets the definition of "Manufacturing Process" found in subsection 45CSR7.2.20. The facility should be in compliance with Subsection 3.1 (no greater than 20% opacity), Subsection 3.7 (no visible emissions from any storage structure pursuant to subsection 5.1 which is required to have a full enclosure and be equipped with a control device), Subsection 4.1 (PM emissions shall not exceed those allowed under Table 45-7A), Subsection 5.1 (manufacturing process and storage structures must be equipped with a system to minimize emissions), Subsection 5.2 (minimize PM emissions from haulroads and plant premises) when the particulate matter control methods and devices proposed within application G40-C019D are in operation.

**45CSR13**      *Permits for Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Temporary Permits, General Permits, and Procedures for Evaluation*

The proposed modification is subject to the requirements of 45CSR13. The applicant submitted the proper \$1,500 application fee and published a Class I legal advertisement in *The West Virginia Daily News* on January 21, 2015.

**45CSR16**      *Standards of Performance for New Stationary Sources*  
**40 CFR 60**      *Subpart OOO: Standards of Performance for Nonmetallic Mineral Processing Plants*

The proposed modification is subject to 40 CFR 60 Subpart OOO because it will occur after April 22, 2008 and the plant processes more than 25 tons of aggregate per hour. The proposed modification will include a vibrating wash screen and belt conveyors, which are defined as affected facilities in 40 CFR 60 Subpart OOO. Therefore, the proposed modification is subject to 45CSR16, which incorporates by reference 40 CFR 60 Subpart OOO - Standards of Performance for Nonmetallic Mineral Processing Plants. The facility should be in compliance with 60.672 (b) no greater than 7% opacity from any transfer point on belt conveyors or from any other affected facility (as defined in 60.670 and 60.671) and no greater than 12% opacity from any crusher when the particulate matter control methods and devices proposed within application G40-C019D are in operation.

**45CFR60**      *Subpart IIII—Standards of Performance for Stationary Compression Ignition Internal Combustion Engines*

Boxley Aggregates of West Virginia, LLC is subject to this subpart because the engine was manufactured after April 1, 2006. The engine emissions for [PP-ENG1] is EPA Tier III Certified, Certificate Number: PKX-NRCI-11-07.

**40CFR63**      *Subpart ZZZZ—National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*

Boxley Aggregates of West Virginia, LLC is subject to 40CFR63 Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal

Combustion Engines, because PP-ENG1 is considered a new area source of HAPs since it will be constructed on or after June 12, 2006, however, the only requirements that apply are those required under 45CFR60 Subpart III.

#### *45CSR30 Requirements for Operating Permits*

In accordance with 45CSR30 Major Source Determination, the combined facilities will be a non-major source which is subject to NSPS Subparts OOO and III. The combined facilities' potential to emit will be 73.97 TPY of a regulated air pollutant (PM<sub>10</sub>), not including fugitive emissions from haulroads, which is less than the 45CSR30 threshold of 100 TPY. Therefore, the facility will continue to be subject to 45CSR30 and classified as a Title V deferred non-major source.

The proposed modification of a non-metallic mineral processing plant will not be subject to the following state and federal rules:

#### *45CSR14 Permits for Construction and Major Modification of Major Stationary Sources of Air Pollution for the Prevention of Significant Deterioration*

In accordance with 45CSR14 Major Source Determination, the proposed facility is not listed in Table 1. The facilities will have a combined potential to emit 170.39 TPY of a regulated air pollutant (PM), not including fugitive emissions, which is less than the 45CSR14 threshold of 250 TPY. This facility is not listed in Table 2, and so fugitive emissions are not included when determining source applicability. Therefore, the proposed modification is not subject to the requirements set forth within 45CSR14.

### TOXICITY OF NON-CRITERIA REGULATED POLLUTANTS

Small amounts of non-criteria regulated hazardous or toxic air pollutants such as benzene, ethylbenzene, toluene, xylenes and formaldehyde may be emitted during the production of hot mix asphalt. Due to the small amounts emitted, these non-criteria regulated hazardous/toxic pollutants should not adversely impact an applicable ambient air quality standard or cause or contribute to degradation of public health and welfare. A toxicity analysis would be required when the Director determines the facility may interfere with attainment or maintenance of an applicable ambient air quality standard or cause or contribute to degradation of public health and welfare.

### AIR QUALITY IMPACT ANALYSIS

Air dispersion modeling was not performed due to the size and proposed location of this facility. This facility will be located in Greenbrier County, WV, which is currently in attainment for PM (particulate matter), PM<sub>10</sub> (particulate matter less than 10 microns in diameter) and PM<sub>2.5</sub> (particulate matter less than 2.5 microns in diameter).

### MONITORING OF OPERATIONS

G40-C registrants will be required to perform the following monitoring and recordkeeping:

1. Monitor and record daily and monthly records of the amount of nonmetallic minerals processed.

2. Monitor and record calendar monthly and calendar annual quantity of fuel consumed and hours of operation for all engines and combustion sources.
3. Monitor and record calendar annual quantity of organic liquid throughput in all registered storage tanks.
4. Conduct visual observations of all points listed in the registration that are subject to opacity limits.
5. Conduct annual preventative maintenance/inspection, and all routine maintenance service and repairs as required, to facilitate proper control device performance, for the control devices listed in the registration.
6. Perform are applicable required monitoring, recordkeeping, reporting and testing that is required under 40CFR60 Subparts OOO, IIII, and JJJJ.
7. These records shall be maintained on-site for a minimum of five (5) years from the date of record creation and shall be made available to the Director of the Division of Air Quality or his or her duly authorized representative upon request.

#### CHANGES TO PERMIT G40-C019C

The changes in this permit modification include the addition of a portable wash plant that consists of a loading hopper and feed belts to a triple deck, vibrating screen that utilizes water sprays within the enclosure to wash the aggregate as it separates based on size. The aggregate is distributed to one of four (4) new open stockpiles via one of four (4) corresponding belt conveyors. The portable wash plant utilizes a 2011, Caterpillar C4.4, Tier III certified, diesel engine for power.

#### RECOMMENDATION TO DIRECTOR

The information contained in this Modification application indicates that compliance with all applicable regulations should be achieved when all proposed particulate matter control methods are in operation. Due to the location, nature of the process, and control methods proposed, adverse impacts on the surrounding area should be minimized. Therefore, the granting of a G40-C registration to Boxley Aggregates of West Virginia, LLC for the Modification of anon-metallic mineral processing plant located in Alta, Greenbrier County WV is hereby recommended.

  
Thornton E. Martin Jr.  
Permit Engineer

February 13, 2015  
Date