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July 28, 1999

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Mr. Cleve Halliday
New Source Review Section
Bureau of Air Regulation
Florida Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Re: Champion International Corporation
McDavid Sawmill – Air Construction Permit Application
DEP File No. 0330260-001-AC (PSD-FL-271)

Dear Mr. Halliday:

In response to your telephone request, please find enclosed: (a) a graphic showing the fence line receptors and emission points (Attachment I), (b) graphics and data concerning receptor terrain elevations (Attachment II), and (c) explanation of volume source model input data (Attachment III).

Please feel free to contact me at (352) 332-6230, Ext. 351 if there are any further questions.

Sincerely,

ENVIRONMENTAL CONSULTING & TECHNOLOGY, INC.

Thomas W. Davis, P.E.
Principal Engineer

Attachments

cc: Mr. Dave Stevens, Champion
Mr. John Barone, Champion
Mr. Terry Kassabaum, Champion
Mr. Ed Middleswart, FDEP – NWD

3701 Northwest 98th Street
Gainesville, FL 32606

(352) 332-0444

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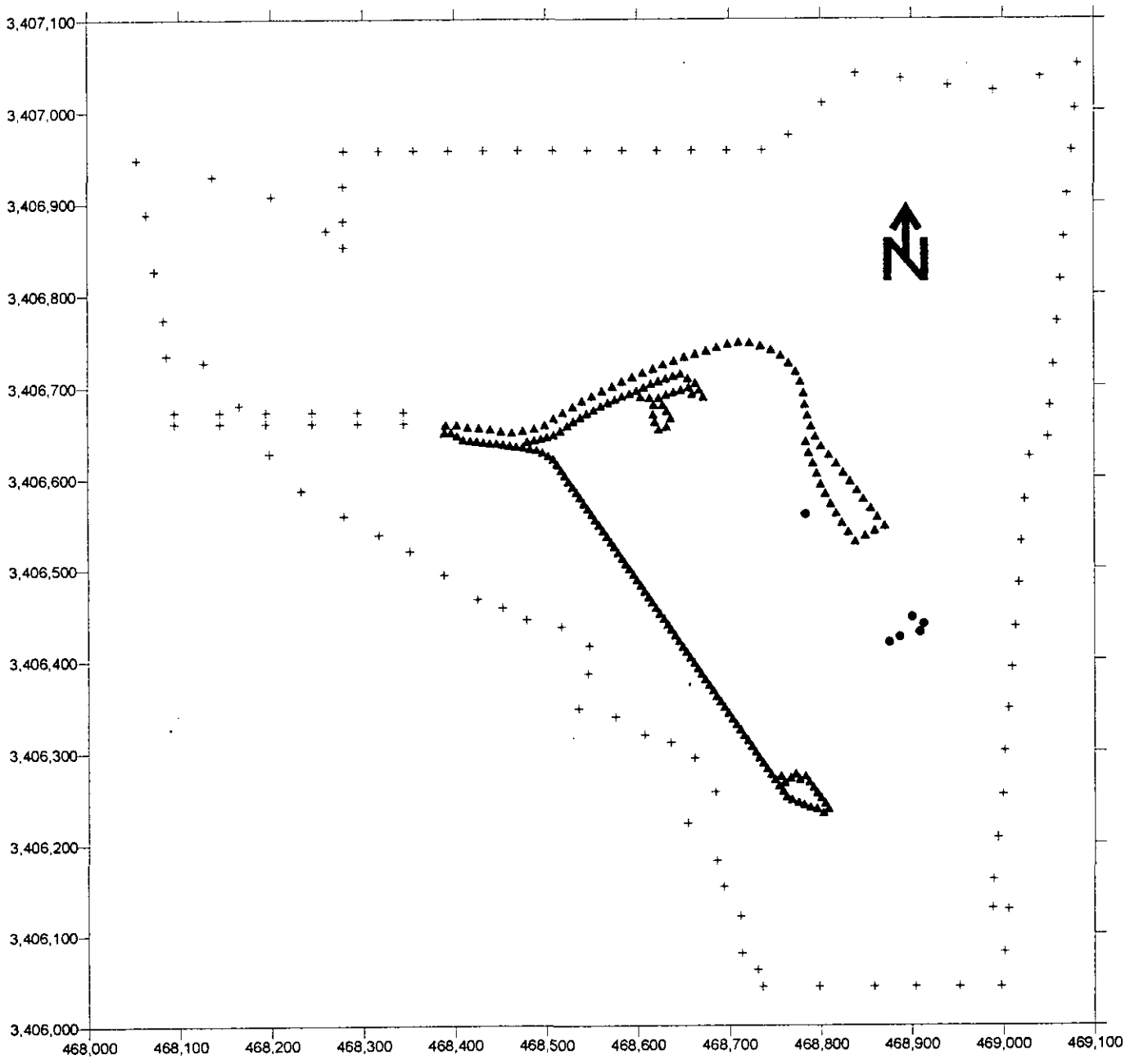
ATTACHMENT I

FENCE LINE RECEPTORS AND EMISSION POINTS

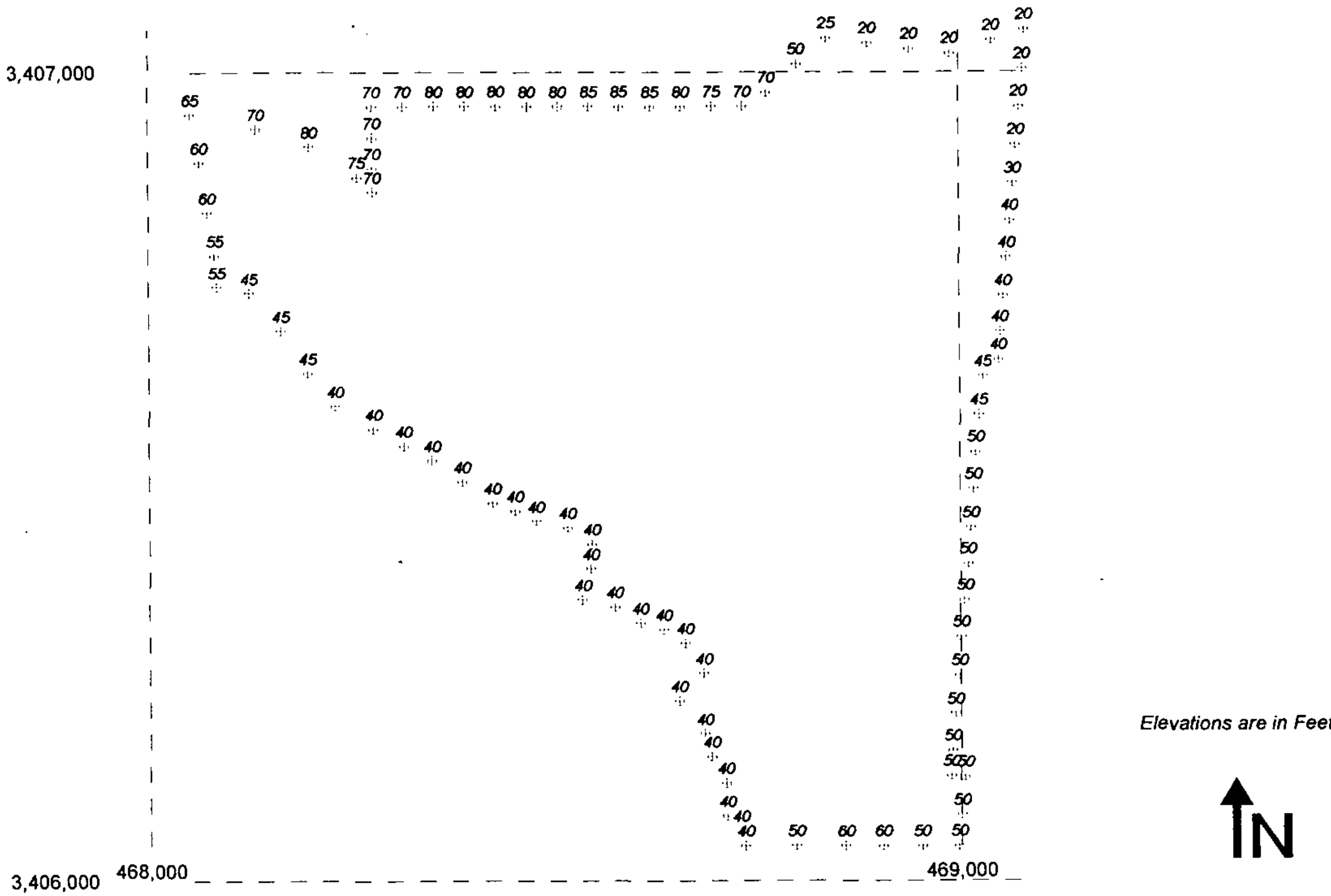
McDavid Sawmill
Fence Line Receptors and Emission Points



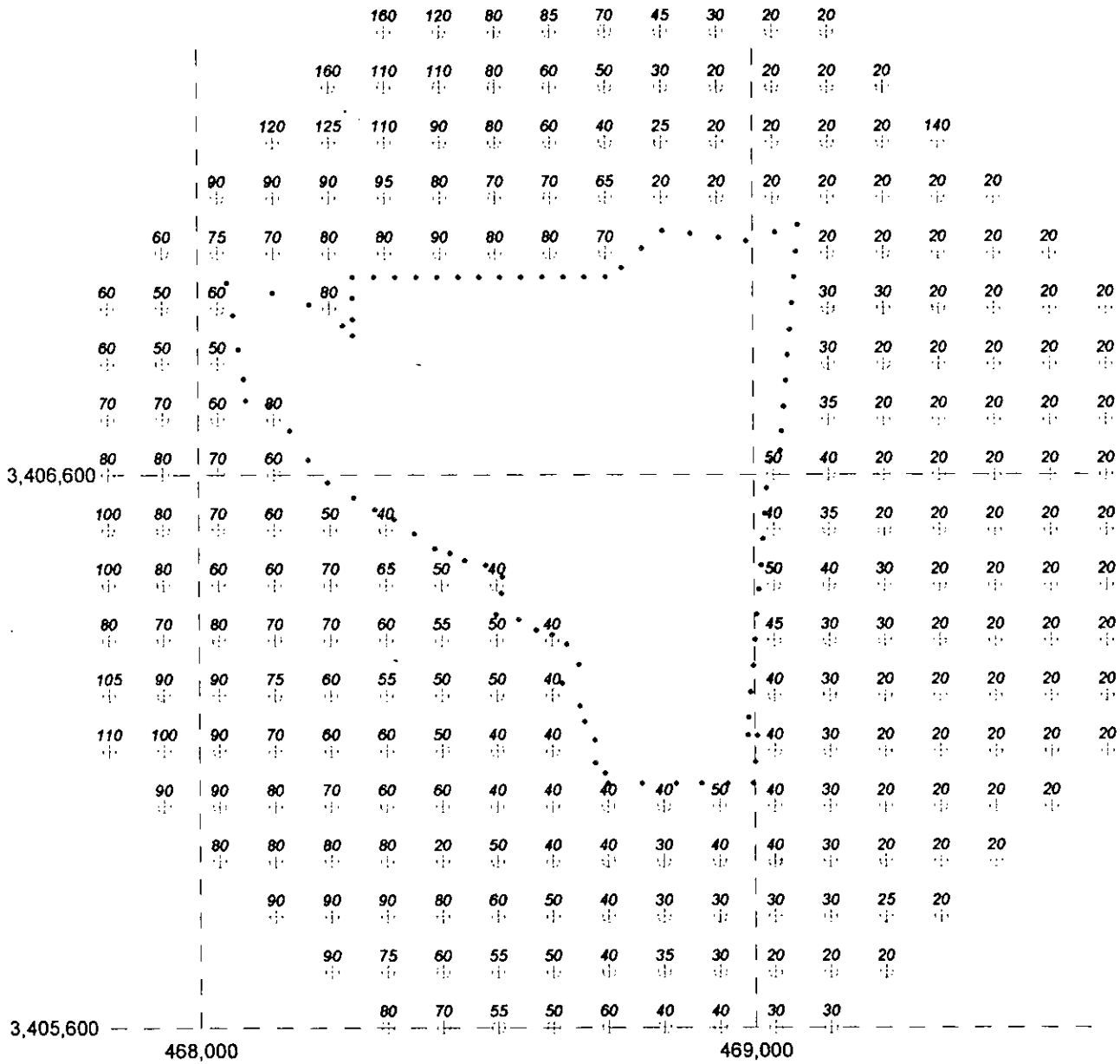
ATTACHMENT II

RECEPTOR ELEVATIONS

Champion International, McDavid Sawmill
Property Boundary Receptor Locations with Elevation



Champion International, McDavid Sawmill
Discrete Receptor Locations with Elevation



Elevations are in Feet

N

Champion 10° Grid Elevations

7/28/99

Direction	Elevations (feet) at These Distances (meters) from Grid Center :-												
(°)	1,250	1,750	2,250	2,750	3,250	3,750	4,250	4,750	5,500	6,500	7,500	8,500	9,500
10	60	30	30	30	30	30	30	30	25	35	30	30	30
20	25	25	30	30	30	30	30	30	30	30	30	30	30
30	20	20	25	25	25	30	30	30	30	30	40	40	60
40	20	20	20	20	20	30	30	30	30	40	40	70	70
50	20	20	20	20	20	30	30	30	60	60	70	80	110
60	20	20	20	20	20	30	30	60	60	60	70	120	170
70	20	20	20	20	20	30	30	40	60	60	70	120	150
80	20	20	20	20	20	25	30	50	50	60	80	130	210
90	20	20	20	20	20	30	50	50	55	70	95	140	130
100	20	20	20	20	20	30	30	50	55	60	140	210	210
110	20	20	20	20	20	20	25	50	50	50	60	175	210
120	20	20	20	20	20	20	20	20	20	50	100	170	60
130	20	20	20	20	20	20	20	20	20	20	20	80	50
140	20	20	20	20	20	20	20	20	10	10	10	10	20
150	25	20	20	20	20	20	20	15	10	10	10	10	10
160	25	20	20	20	20	20	20	20	20	10	10	10	10
170	50	20	20	20	20	20	20	20	10	10	30	30	45
180	90	20	30	40	50	70	95	80	55	30	90	110	110
190	70	30	20	80	140	80	140	60	100	110	180	170	170
200	80	40	20	106	120	175	185	200	170	200	200	180	190
210	60	40	30	50	110	120	130	180	190	210	200	200	175
220	60	50	30	50	60	50	120	180	190	200	210	200	180
230	70	60	30	70	155	120	110	100	150	190	190	130	160
240	105	90	30	60	80	110	160	215	190	210	150	170	130
250	130	40	50	30	80	110	190	190	150	210	185	140	200
260	100	60	60	45	35	120	180	90	200	190	185	180	210
270	120	80	80	55	40	50	120	50	70	100	190	210	190
280	120	90	100	60	65	50	50	70	140	80	130	180	220
290	80	120	70	70	110	75	90	60	150	210	160	140	210
300	70	150	100	90	150	85	80	106	50	100	160	210	170
310	70	95	150	160	150	115	100	170	110	100	70	100	130
320	140	80	160	150	120	140	210	215	130	160	120	120	85
330	160	160	100	140	130	170	210	210	230	250	250	210	210
340	90	90	130	200	120	110	190	200	220	160	220	130	190
350	70	60	60	80	80	80	120	90	110	80	70	200	140
360	7055	30	40	30	35	90	50	80	70	80	70	70	80

Champion 5° Grid Elevations

7/28/99

Direction	Elevations (feet) at These Distances (meters) from Grid Center :-											
(°)	1,000	1,500	2,000	2,500	3,000	3,500	4,000	4,500	5,000	6,000	7,000	8,000
5	55	30	40	30	30	40	40	50	35	50	50	30
15	30	30	30	30	30	30	30	30	30	30	30	30
25	20	25	30	30	30	30	25	30	30	30	30	30
35	20	20	25	25	25	30	20	30	30	30	60	60
45	20	20	20	20	20	25	20	30	40	35	50	70
55	20	20	20	20	20	20	20	30	60	60	60	100
65	20	20	20	20	20	20	30	40	50	60	50	90
75	20	20	20	20	20	20	30	30	40	60	60	115
85	20	20	20	20	20	20	30	50	50	60	80	100
95	20	20	20	20	20	20	50	50	55	60	90	200
105	20	20	20	20	20	20	30	30	50	50	75	140
115	20	20	20	20	20	20	20	30	40	50	70	90
125	20	20	20	20	20	20	20	20	20	20	40	60
135	20	20	20	20	20	20	20	20	20	20	15	20
145	20	20	20	20	20	20	20	20	20	20	10	10
155	20	20	20	20	20	20	20	20	20	20	20	10
165	40	20	20	20	20	20	20	20	20	20	20	20
175	50	35	20	30	20	30	40	40	40	30	40	95
185	60	85	20	50	20	110	100	80	50	90	100	190
195	60	45	20	50	130	130	130	135	140	190	200	190
205	80	65	30	40	70	100	160	210	210	210	200	200
215	80	60	30	30	130	90	100	135	190	210	210	200
225	70	80	40	30	40	110	70	110	160	205	210	180
235	90	105	40	40	70	130	190	175	170	180	195	140
245	110	80	30	30	70	100	150	195	170	190	200	180
255	120	90	85	40	50	70	160	175	100	190	190	200
265	120	80	75	50	30	50	170	110	140	100	210	190
275	80	100	80	70	50	40	40	70	95	70	120	200
285	60	100	120	50	60	70	50	60	70	190	130	180
295	60	120	100	90	90	115	70	70	50	90	190	170
305	75	110	140	155	115	160	140	100	110	80	60	110
315	110	70	130	185	115	160	165	180	210	170	105	110
325	160	140	90	170	160	190	160	210	200	240	210	180
335	160	160	160	150	170	175	200	170	210	230	220	200
345	100	80	100	90	140	80	110	160	130	210	160	80
355	80	50	50	50	50	60	110	70	120	80	55	150

Direction (°)	9,000	10,000
5	40	60
15	30	30
25	40	40
35	50	70
45	80	110
55	125	150
65	140	220
75	180	160
85	160	190
95	200	195
105	100	210
115	100	180
125	65	110
135	40	30
145	10	10
155	10	10
165	10	10
175	120	80
185	160	155
195	160	170
205	185	190
215	190	140
225	180	170
235	160	150
245	120	140
255	210	190
265	160	150
275	210	160
285	210	240
295	130	230
305	190	215
315	70	100
325	180	210
335	220	230
345	150	230
355	155	60

ATTACHMENT III

VOLUME SOURCE
MODEL INPUT DATA

Attachment III
Volume Source Model Input Data

PM_{10} emissions due to truck traffic on paved roadways for the McDavid Sawmill were modeled as volume sources using guidance provided in the ISC3 User's Guide.

There are three types of truck traffic and roadways planned for the McDavid Sawmill: (1) by-product trucks [V1-V64], (2) log trucks [V95-V137], and (3) product lumber trucks [V138-V234].

Emission rates for volume for each of the three roadways was calculated by dividing the PM_{10} emissions associated with the roadway. These rates are shown on the revised Table 2-3 included in the 7/16/99 response package submitted to the Department. As an example, hourly PM_{10} emissions for the by-product truck roadway segment is 0.6263 lb/hr. For 64 volumes (V1-V64), each volume has a PM_{10} emission rate of 0.0098 lb/hr or 1.2×10^{-3} g/s. Similar calculations were made for the other roadway segments.

Additional volume source model input parameters include release height, initial lateral dimension (sigma-y), and initial vertical dimension (sigma – z). Guidance for estimating sigma-y and sigma-z are provided in Table 3-1 of the ISC3 User's Guide. The release height for all truck roadway segments was assumed to be 50% of the estimated turbulence-induced truck vertical dimension height of 20 feet or 10 feet (3.05 m). For all truck roadway segments, sigma-z, per the EPA guidance, was set equal to the vertical dimension divided by 2.15 or 9.3 feet (2.84 m). Sigma-y, per the EPA guidance, was set equal to the roadway width divided by 2.15. Roadway widths are 40 feet for the by-product trucks (V1-V64), 24 ft (V95-V98) and 28 ft (V99-V137) for the log trucks, and 24 ft for the product lumber trucks (V138-V234).

All material handling fugitives (F9, F10, F13-F19, F22-F24, F27, and F31-F35) were modeled as one volume source V235. Release height was estimated at 15 ft [4.57 m] (50% of the vertical dimension of 30 ft), sigma-z at 30 ft divided by 2.15 or 13.9 ft (4.25 m), and sigma-y at the volume width of 151 ft divided by 4.3 or 35 ft (10.7 m). The PM_{10} emissions from these fugitive sources are small (totaling only 0.007 lb/hr or 0.0009 g/s) and had little contribution to maximum impacts.