

CITY OF FRANKLIN
QUARRY MONITORING COMMITTEE*
MEETING AGENDA

Franklin City Hall, Council Chambers
9229 West Loomis Road, Franklin, Wisconsin 53132
Tuesday, January 24, 2023, 6:00 p.m.

- I. Call to Order, Roll Call and Pledge of Allegiance
- II. Approval of Minutes
 - a. Regular meeting of November 29, 2022.
- III. Citizen Comment Period
PLEASE NOTE: Each speaker may need to be limited to three minutes, allowing everyone who wishes the opportunity to speak.
- IV. Hearings.
- V. Business (Action may be taken on any item)
 - a. Quarterly presentation by Stantec Consulting Services, Inc., 4th quarter of calendar year 2022 (October, November and December).
 - b. Review and discussion on matters pertaining to citizen complaints, blasting data from Payne & Dolan and Stantec (the City's consultant).
 - c. Amendment to the committee's agenda template: deletion of "Hearings".
- VI. Meeting scheduling discussion
- VII. Adjournment

** Notice is given that a majority of the Common Council may attend this meeting to gather information about an agenda item over which the Common Council has decision-making responsibility. This may constitute a meeting of the Common Council per State ex rel. Badke v. Greendale Village Board, even though the Common Council will not take formal action at this meeting.*

Notice is further given that upon reasonable notice, efforts will be made to accommodate the needs of disabled individuals through appropriate aids and services. For additional information, please contact the Franklin City Clerk's office at (414) 425-7500.

City of Franklin
Quarry Monitoring Committee Meeting
Council Chambers, Franklin City Hall
6:00 PM
November 29, 2022
Minutes

unapproved

I. CALL TO ORDER

The November 29, 2022, Quarry Monitoring Committee meeting was called to order by Alderman Mike Barber at 6:00 p.m. in the Council Chambers at City Hall.

Alderman Mike Barber, Vice Chair Dina Swanson (non-voting) and members Edward Pings and Bryan Maersch were present. Alderwoman Kristen Wilhelm and member Jon TenHaken were not present. Also present were Principal Planner Régulo Martínez-Montilva, Bryanna Bucholtz and Wes Hineline of Payne & Dolan and Kristen Gunderson-Inden of Stantec.

II. APPROVAL OF MINUTES

a. Regular meeting of September 27, 2022

Member Pings moved and Vice Chair Swanson seconded to approve the minutes as presented. On voice vote, all present voted 'aye'; the vote was 3-0-2, motion carried.

III. CITIZEN COMMENT PERIOD

Citizen comment period opened at 6:01 p.m. and closed at 6:02 p.m.

IV. HEARINGS

No Hearings.

V. BUSINESS

a. Quarterly presentation by Stantec Consulting Services, Inc., 3rd quarter of calendar year 2022 (July, August and September).

Member Pings moved and Member Maersch seconded a motion to accept the 3rd quarter report and place it on file. On voice vote, all present voted 'aye'; the vote was 3-0-2, motion carried.

b. Review and discussion on matters pertaining to citizen complaints, blasting data from Payne & Dolan and Stantec (the City's consultant).

Member Maersch moved and Vice Chair Swanson seconded a motion to place blasting data on file. On voice vote, all present voted 'aye'; the vote was 3-0-2, motion carried

c. Quarry monitoring scope of services for calendar year 2023 by Stantec Consulting Services, Inc.

Member Maersch moved and Member Pings seconded a motion to recommend approval of the scope of services to the Common Council, with an additional item indicating that quarterly reports should include a short summary of comments associated with complaints. On voice vote, all present voted 'aye'; the vote was 3-0-2, motion carried.

VI. SCHEDULE NEXT MEETING

Next meeting scheduled for January 24, 2023.

VII. ADJOURNMENT

Member Pings moved and Vice Chair Swanson seconded to adjourn the November 29, 2022 Quarry Monitoring Committee meeting at 6:34 p.m.. All present voted 'aye'; motion carried.

DRAFT



Stantec Consulting Services Inc.
12080 Corporate Parkway, Suite 200
Mequon, Wisconsin 54092
Tel: (262) 241-4466

January 10, 2023

Regulo Martínez-Montilva
Principal Planner - Department of City Development
City of Franklin
9229 W. Loomis Road
Franklin, Wisconsin 53132
HEddy@franklinwi.gov

Reference: City of Franklin, WI – Franklin Aggregates Quarry Monitoring Summary
Period: 4th Quarter 2022
Stantec Project: 193707487

Dear Mr. Martínez-Montilva:

The enclosed information summarizes monitoring activities completed during the third quarter of 2022 by Stantec Consulting Services Inc. (Stantec) pertaining to the Franklin Aggregates, Inc. quarry (owned by Payne & Dolan, Inc.) located at 6211 W. Rawson Avenue, Franklin, Wisconsin (the Quarry). Stantec was retained by the City of Franklin to conduct a combination of direct observation (visual) monitoring, seismic monitoring of the quarry operations, and evaluation of citizen complaints. Separate description of services and project background are provided in Attachments A and B, respectively. This letter summarizes the results.

Direct Observation (Visual) Monitoring

Copies of completed observation forms are prepared and posted to the project Teams site for review by City representatives. Copies of individual reports are not provided with this summary report.

One observation event was completed during the monitoring period; an unannounced inspection on October 19 which was limited to the perimeter of the quarry. During the visit, minimal to no dust was observed on Rawson Avenue from trucks that were departing the site. Significant amounts of dirt or stone were not observed on Rawson Avenue. The street sweeper was observed operating on Rawson Avenue on the inspection. No noticeable dust or debris was observed on other roads surrounding the quarry.

Seismic Monitoring

As contracted by the City, Stantec provided remote vibration monitoring using two seismographs co-located with two existing Payne & Dolan (Vibra-Tech) monitors at 7301 S. 51st Street (VT1 and S1) and 5800 W. Allwood Drive (VT4 and S2). The monitoring provides continuous (24/7) remote monitoring. Payne & Dolan also has monitors at 7526 S. 51st Street (VT2) and southeast of the quarry (VT3). Summaries of blasting data, comparing the Payne & Dolan unit recordings to the Stantec (Sauls Seismic) unit recordings, were prepared for the quarter, and are presented in Attachment C. Figure 1 illustrates the locations of the blasts in the quarter.

Highlights of the seismic data include the following:

- Between October 1 and December 31, 2022, a total of eighteen blasting events occurred. Thirteen of eighteen (72.2%) of these blasts were confirmed by the Stantec monitors.
- Per the Planned Development District agreements (PDD), 85% of the quarry's blasts within any calendar year must be below the maximum permissible vibration (of 0.30 inches per second (in/sec), measured at the closest residence or inhabited structure not owned or controlled by the quarry. This is more stringent than State of Wisconsin regulations which require quarry operators to report any ground vibration levels to the Wisconsin Department of Natural Resources that are above 0.75 in/sec.

- None of the blasting events measured by Payne & Dolan or Stantec had a vibration greater than 0.30 in/sec; thus 100% of the quarry's blasts were below this level. This is in conformance with the PDD.
- Per the PDD, airblast resulting from P&D blasting shall not exceed 123 dB on at least 85% of its blasts within any single calendar year, measured at the residence or inhabited structure closest to the site of the blast which is not owned or controlled by the Operator. Notwithstanding any other provision in this subsection, the Operator shall not exceed the airblast limitation imposed by Wis. Adm. Code, SPS Ch. 307.
 - None of the blasting events measured by Payne & Dolan or Stantec had an air overpressure (AO) greater than 123dB (one blasting event on 10/10/22 had an AO of 123dB); thus 100% of the quarry's blasts this quarter were below this level. This is in conformance with the PDD.
 - Annually, there have been 83 total blasts through the fourth quarter of 2022. One blast in first quarter had an AO over 123dB. For 2022 year to date, 98.8% of the blasts have been under 123dB, which is in conformance with the PDD.
- The corresponding blast data measured by Stantec with the Sauls Seismic monitors generally aligned with the readings at each Payne & Dolan sponsored Vibra-Tech monitors. There were some larger differences in the AO readings. It should be noted that in addition to the fact the monitors are produced by different manufacturers, there are a variety of variables that can influence actual PPV readings. The Sauls Seismic monitors were recalibrated in the late summer/early fall 2022 (5800 W. Allwood Dr. on 9/15/22 and 7301 S. 51st St. on 8/23/22); calibration is typically completed annually.
- In general, the largest blast readings at each monitor appear to correlate with the proximity of the nearest adjacent blast location.

Blast Complaint Evaluation

A compilation of all blast events and complaints received by Stantec for the period October 1 through December 31, 2022, is provided as Attachment C. Note that Attachment C does not provide the actual complainant details (name, address, and phone number) if known; it was decided to have this information remain confidential in this report. However, complainant identity may be released upon public records request to the City of Franklin. The locations of all blasts and complaints are shown on Figure 1. The following highlights the results of the complaint evaluation:

Complaints - General

- 7 complaints (formally submitted) – total
- 2 complaints (informally submitted, e.g., phone call) – one with no location provided
- 0 complaints – regarding noise
- 0 complaints – regarding dust
- 0 complaints – miscellaneous
- 9 complaints – regarding vibration

Complaints – Blast Related

- 9 complaints – corresponding to actual blast events (informal complaint was a voicemail message with limited information provided about 2 hours after a blast event)
- 0 complaints – not corresponding to actual blast events
- 7 complaints – complainant location identified

- 6 households that complained once
- 1 household that complained twice
- 2 complaints – no name and address provided (requested confidentiality or no location given for informal complaint)

Summary of Complaint Comments – Blast Related

- October 10, 2022 (there were two blasts in a short time period, complaints appear to be from the first blast)
 - Extremely large quarry blast. Shook whole house. Several car alarms in the area went off. One of the worst I've experienced in over 20 years.
 - Shook the entire house. Pull cords on lamps were shaking.
- October 31, 2022
 - I was inside my house. The windows rattled, and I heard and felt the blast. All of the windows were shut.
 - Shook house and the furniture we were sitting on.
- November 10, 2022
 - Complete house shook. Pictures moved, dogs were scared, water in a glass was moving.
- December 19, 2022
 - Longer sustained rumbling blast shook our home. Doors, windows rattled.
 - This was much more significant than we have experienced in the recent past. The whole house shook. Items visibly shook and moved.

Complaints (non-anonymous; confirmed blast related) - Locations

- 0 complaint – east of 51st Street
- 7 complaints – south of Drexel Avenue
- 0 complaints – west of Root River

Blast Events

- 18 blast events - during monitoring period 2Q2022 (shot numbers 66 through 83)
- 4 blast events - corresponding to complaints
 - 0 weather: rain
 - 2 weather: haze, partly to mostly cloudy, or cloudy
 - 2 weather: clear, fair, or scattered clouds
 - 3 time: prior to 12:00 pm (noon)
 - 1 time: after 12:00 pm
- 1 blast events with one complaint
- 1 blast event with two complaints
- 2 blast events with three complaints

Quarry Blast Locations Producing Complaints

- 4 southern area of quarry
- 0 central area of quarry
- 0 northern area of quarry



January 10, 2023

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Reference: City of Franklin, WI – Franklin Aggregates Quarry Monitoring Summary Period: 4Q2022

Upon review of these results outlined above, on Figure 1, and in Attachment C, the following observations are made:

- Very few, if any, quarry operational complaints are made regarding dust or truck traffic. Most complaints focus on quarry blasting and resulting ground vibrations.
- All of the complaints in this quarter originate from residences south of Drexel Avenue; these blasts were in the southern portion of the quarry.
- No blast this quarter had more than three complaints.
- No complaints came from west of the Root River.
- Due to increased number of employees now working from home, residents may have been at home more during the day than in years prior to 2020. However, this is essentially the “new normal”.

Please feel free to contact Mike Roznowski at 920-278-3200 or mike.roznowski@stantec.com; or Kristen Gunderson-Inden at 262-665-3447 or kristen.gunderson-inden@stantec.com if you have any questions.

Respectfully,

STANTEC CONSULTING SERVICES INC.

Kristen Gunderson-Inden
Senior Environmental Scientist

Michael B. Roznowski, CHMM
Senior Principal

Attachments A - Franklin Quarry Seismic Monitoring Description of Services
 B - Franklin Quarry Seismic Monitoring Project Background
 C - Summary of Seismic Data – 4th Quarter 2022
 Figure 1 - Seismic Monitoring, Blasting, and Complaint Locations, 4th Quarter 2022

ATTACHMENT A

FRANKLIN QUARRY SEISMIC MONITORING DESCRIPTION OF SERVICES

DESCRIPTION OF SERVICES

Direct Observation (Visual) Monitoring

During 2022, Stantec will conduct a total of nine (9) qualitative site visits at the quarry to observe and document whether the site was compliant with operational parameters defined in the existing Planned Development District (PDD) agreements, and to evaluate whether the quarry's general operations are consistent with best management practices employed by other similar quarries. Site visits are a combination of announced and unannounced, but all are conducted during normal business hours. The days of the week and times of the day for the visits vary. The observations will be completed between April and October, when quarry operations are occurring, and airborne dust is more likely. Qualitative data to be collected includes the following:

- Visual observation of all aspects of the mining operation, including but not limited to:
 - Trucking operations, in particular pertaining to dust issues along Rawson Avenue
 - Operational issues that may affect local citizens in some form of adverse off-site impact
- Direct air quality observations, including:
 - General site and surrounding visual air quality, including opacity, in particular along Rawson Avenue
 - Dust control measures and issues on-site that may affect off-site receptors
 - Dust control issues directly adjacent off-site
 - Any other dust issues that may affect local citizens
- Quarry operations review (for announced visits), including:
 - Review of quarry records pertaining to dust control measures and recordkeeping, ensuring that the operator is following standard protocol to minimize off-site impacts, and evaluating how well and how quickly they respond to potential of actual off-site impact situations
 - Comparison of records to stated performance objectives and respective PDD compliance, only as they pertain to dust in general, and along Rawson Avenue in particular

The findings of each visit will be documented on a standard form previously approved by the City. The form will be filled out by hand during each site visit, and then scanned/posted to a project file transfer protocol (FTP) site for review by City representatives. Stantec also will obtain photos to document site or directly adjacent off-site conditions, and short-duration video clips (e.g., showing dust impacts). These photos and videos are also uploaded to the project FTP site.

In addition to the observations and record review, Stantec also will obtain and document on the inspection forms local meteorological conditions that were relevant to the observations (e.g., temperature, wind speed, wind direction, humidity, and precipitation).

Stantec also will notify the City Planning Manager of any condition (pertaining to air or dust monitoring, or other PDD condition) that we become aware of that exceeds the allowances outlined in the PDD. This communication will be completed prior to noon the business day following the day we become aware of any such event.

Seismic Monitoring

Stantec provides remote vibration monitoring by using Nomis Seismographs. Sauls Seismic is subcontracted to operate two separate seismographs, each co-located with two existing Payne & Dolan (Vibra-Tech) monitors located at: 7301 S. 51st Street, and 5800 W. Allwood Drive. Each monitor was pole-mounted and provided with a weatherproof enclosure. Power is provided via an internal battery and an external battery connected to a solar panel. This type of configuration provides continuous (24/7) remote monitoring, allowing Stantec to have access to data anytime via the Internet.

Stantec also will notify the City Planning Manager of any condition (pertaining to blasting, noise or other PDD condition) that we become aware of that exceeded the allowances outlined in the PDD. This communication will be completed prior to noon the business day following the day we become aware of any such event.

Blast Complaint Evaluation

Periodically the City forwards to Stantec specific information pertaining to quarry complaints received. Stantec evaluates each one on a quarterly basis to determine the following corresponding collaborative conditions:

- Off-site dust complaints: weather conditions (wind direction and speed) the day of the complaint
- Off-site seismic complaints: seismic data from both Stantec (if monitoring at the time) and Payne & Dolan placed monitors
- On occasion, the City may request an exceptional blast complaint evaluation if a blast event receives an unusually high number of complaints. A letter report will be issued by Stantec within approximately one week of the request that describes:
 - seismic data from both Stantec and Payne & Dolan placed monitors
 - weather conditions (wind direction and speed) the day of the complaint
 - a figure showing location of blast and complaints

ATTACHMENT B

FRANKLIN QUARRY SEISMIC MONITORING PROJECT BACKGROUND

Background Summary

Seismic monitoring was completed to document whether the site was compliant with operational parameters defined in the existing Planned Development District (PDD) agreements. Prior to 2018, Stantec completed a variety of 2, 4, and 8-week seismic monitoring periods. During 2018, Stantec completed one 4-week period and one 16-week period of monitoring. Monitoring consisted of placing a city owned and maintained Instantel MiniMate Plus fixed seismograph equipped with an external geophone at one of two city-established blast monitoring sites or vaults for each period. Seismic data was downloaded once every two weeks. Due to equipment limitations the data could not be downloaded remotely as it occurs (i.e., real time).

In 2019, Stantec provided remote vibration monitoring by using Nomis Seismographs. Sauls Seismic was subcontracted to install two separate seismographs, each co-located with two existing Payne & Dolan (Vibra-Tech) monitors located at: 7301 S. 51st Street, and 5800 W. Allwood Drive. Each monitor was pole-mounted and provided with a weatherproof enclosure. Power was provided via an internal battery and an external battery connected to a solar panel. This type of configuration provided continuous (24/7) remote monitoring, allowing Stantec to have access to data anytime via the Internet.

As contracted by the City for 2022, Stantec is providing remote vibration monitoring using two seismographs co-located with two existing Payne & Dolan (Vibra-Tech) monitors at 7301 S. 51st Street and 5800 W. Allwood Drive. There is a chance one of these monitors may be moved to an alternate location during 2022. The monitor provided continuous (24/7) remote monitoring. Quarterly summaries of blasting data, comparing the Payne & Dolan (Vibra-Tech) unit recordings, to the Stantec (Sauls Seismic) unit recordings, will be prepared for calendar year 2022.

Per the PDD #23 and #24 Ordinances, 85% of the quarry's blasts within any calendar year must be below the maximum permissible vibration (also referred to as particle or ground velocity) of 0.30 inches per second (in/sec), measured at the closest residence or inhabited structure not owned or controlled by the quarry. This is more stringent than State of Wisconsin regulations (Wisconsin Department of Industry, Labor and Human Relations in ch.ILHR 7, Wis. Adm. Code on any blast [new reference now Wis. Adm. Code, Safety and Professional Services (SPS) Chapter 307]) which require quarry operators to report any ground vibration levels to the Wisconsin Department of Natural Resources that are above 0.75 in/sec.

Per the PDD #23 and #24 Ordinances, airblast resulting from P&D blasting shall not exceed 123 dB on at least 85% of its blasts within any single calendar year, measured at the residence or inhabited structure closest to the site of the blast which is not owned or controlled by the Operator. Notwithstanding any other provision in this subsection, the Operator shall not exceed the airblast limitation imposed by Wis. Adm. Code, SPS Ch. 307.

In addition to obtaining and reviewing the blast data from the city-owned, fixed seismograph, Stantec also received data from Payne & Dolan's Vibra-Tech meters, which provided independently monitored Franklin Aggregate blasting data for the entire calendar year. Four monitors are used by Vibra-Tech, three along South 51st Street, and one just south of West Drexel Avenue. This independently monitored data was compared to the Stantec-obtained data.

ATTACHMENT C

SUMMARY OF SEISMIC DATA – 4th QUARTER 2022

Payne & Dolan Blast Monitoring Data								Stantec Blast Monitoring Data		Comparison of P&D and Stantec Monitoring Data		Complaint Information			Weather (for complaints only)							
Date	Time	Activity Number	General Quarry Blast Location	Monitor Location	Dis-tance (feet)	PPV (in/sec)	AO (dB)	PPV (in/sec)	AO (dB)	Differ-ence in PPV Values	Differ-ence in AO dB Values	Com-plaints?	#	Primary direction of complaints (from quarry)	Wind Direc-tion	Wind Speed (mph)	Wind Gusts (mph)	Press-ure (in)	Humi-dity (%)	Condi-tions	Precip-itation	Temp. (°F)
10/4/22	12:25 PM	66	North	5800 ALLWOOD	3,895	N/D	N/D	N/D	N/D	--	--	No										
10/4/22	12:27 PM	66	North	7301 S 51st Street	1,319	0.143	110.0	0.148	106.6	0.00	3.4											
10/4/22	12:27 PM	66	North	7526 S. 51st Street	1899	0.068	115.0															
10/4/22	12:27 PM	66	North	SE of Quarry	2,701	0.023	112.0															
10/4/22	12:39 PM	67	North	5800 ALLWOOD	4,194	N/D	N/D	N/D	N/D	--	--	No										
10/4/22	12:39 PM	67	North	7301 S 51st Street	1,523	0.043	112.0	0.043	109.2	0.00	2.8											
10/4/22	12:39 PM	67	North	7526 S. 51st Street	2,274	N/D	N/D															
10/4/22	12:39 PM	67	North	SE of Quarry	3,093	N/D	N/D															
10/10/22	12:32 PM	68	South	5800 ALLWOOD	1,618	0.080	108.0	0.065	104.9	0.02	3.1	Yes	3	South	NE	9	none	29.41	70	Fair	none	61
10/10/22	12:32 PM	68	South	7301 S 51st Street	2,872	N/D	N/D	N/D	N/D	--	--											
10/10/22	12:32 PM	68	South	7526 S. 51st Street	1,863	0.055	104.0															
10/10/22	12:32 PM	68	South	SE of Quarry	1,188	0.143	108.0															
10/10/22	12:38 PM	69	North	5800 ALLWOOD	4,135	N/D	N/D	N/D	N/D	--	--	No										
10/10/22	12:38 PM	69	North	7301 S 51st Street	1,601	0.088	123.0	0.090	119.2	0.00	3.8											
10/10/22	12:38 PM	69	North	7526 S. 51st Street	2,303	0.133	120.0															
10/10/22	12:38 PM	69	North	SE of Quarry	3,090	0.033	114.0															
10/14/22	1:45 PM	70	North	5800 ALLWOOD	3,805	N/D	N/D	N/D	N/D	--	--	No										
10/14/22	1:43 PM	70	North	7301 S 51st Street	1463	0.125	115.0	0.128	112.3	0.00	2.7											
10/14/22	1:43 PM	70	North	7526 S. 51st Street	1,966	0.073	115.0															
10/14/22	1:43 PM	70	North	SE of Quarry	2,708	0.023	111.0															
10/24/22	9:40 AM	71	South	5800 ALLWOOD	2,011	N/D	N/D	N/D	N/D	--	--	No										
10/24/22	9:40 AM	71	South	7301 S 51st Street	2476	N/D	N/D	N/D	N/D	--	--											
10/24/22	9:40 AM	71	South	7526 S. 51st Street	1,527	N/D	N/D															
10/24/22	9:36 AM	71	South	SE of Quarry	1,105	0.055	103.0															
10/27/22	10:20 AM	72	South	5800 ALLWOOD	1,616	0.045	102.0	0.053	95.9	-0.01	6.1	No										
10/27/22	10:20 AM	72	South	7301 S 51st Street	2,877	N/D	N/D	N/D	N/D	--	--											
10/27/22	10:20 AM	72	South	7526 S. 51st Street	1,945	0.060	98.0															
10/27/22	10:20 AM	72	South	SE of Quarry	1,358	0.065	110.0															
10/31/22	11:45 AM	73	South	5800 ALLWOOD	1,566	0.053	113.0	0.048	106.6	0.01	6.4	Yes	2	South	N	7	none	29.07	58	Cloudy	none	61
10/31/22	11:45 AM	73	South	7301 S 51st Street	2,937	N/D	N/D	N/D	N/D	--	--											
10/31/22	11:45 AM	73	South	7526 S. 51st Street	1,884	0.095	106.0															
10/31/22	11:45 AM	73	South	SE of Quarry	1,129	0.118	108.0															
11/4/22	11:50 AM	74	South	5800 ALLWOOD	1,972	0.043	114.0	0.040	108.4	0.00	5.6	No										
11/4/22	11:50 AM	74	South	7301 S 51st Street	2,554	N/D	N/D	N/D	N/D	--	--											
11/4/22	11:50 AM	74	South	7526 S. 51st Street	1,476	0.055	108.0															
11/4/22	11:50 AM	74	South	SE of Quarry	861	0.130	113.0															
11/10/22	10:50 AM	75	South	5800 ALLWOOD	1782	0.053	111.0	0.058	104.2	0.00	6.8	Yes	1	South	SSW	17	26	29.15	57	Fair	none	58
11/10/22	10:50 AM	75	South	7301 S 51st Street	2,707	0.035	108.0	N/D	N/D	--	--											
11/10/22	10:50 AM	75	South	7526 S. 51st Street	1,725	0.085	107.0															
11/10/22	10:50 AM	75	South	SE of Quarry	1,149	0.193	109.0															
11/11/22	1:02 PM	76	South	5800 ALLWOOD	1,864	0.045	112.0	0.043	106.0	0.00	6.0	No										
11/11/22	1:00 PM	76	South	7301 S 51st Street	2,629	N/D	N/D	N/D	N/D	--	--											
11/11/22	1:02 PM	76	South	7526 S. 51st Street	1,625	0.075	106.0															
11/11/22	1:02 PM	76	South	SE of Quarry	1059	0.145	110.0															

Payne & Dolan Blast Monitoring Data								Stantec Blast Monitoring Data		Comparison of P&D and Stantec Monitoring Data		Complaint Information			Weather (for complaints only)									
Date	Time	Activity Number	General Quarry Blast Location	Monitor Location	Dis-tance (feet)	PPV (in/sec)	AO (dB)	PPV (in/sec)	AO (dB)	Differ-ence in PPV Values	Differ-ence in AO dB Values	Com-plaints?	#	Primary direction of complaints (from quarry)	Wind Direc-tion	Wind Speed (mph)	Wind Gusts (mph)	Press-ure (in)	Humi-dity (%)	Condi-tions	Precip-itation	Temp. (°F)		
11/15/22	11:45 AM	77	North	5800 ALLWOOD	3,722	N/D	N/D	N/D	N/D	--	--	No												
11/15/22	11:45 AM	77	North	7301 S 51st Street	1,281	0.155	111.0	0.140	102.8	0.02	8.2													
11/15/22	11:45 AM	77	North	7526 S. 51st Street	1,718	0.078	119.0																	
11/15/22	11:45 AM	77	North	SE of Quarry	2,493	0.028	117.0																	
11/16/22	10:00 AM	78	South	5800 ALLWOOD	1,794	N/D	N/D	N/D	N/D	--	--	No												
11/16/22	10:00 AM	78	South	7301 S 51st Street	2,693	N/D	N/D	N/D	N/D	--	--													
11/16/22	9:53 AM	78	South	7526 S. 51st Street	1,742	0.035	93.0																	
11/16/22	9:53 AM	78	South	SE of Quarry	1,205	0.100	103.0																	
11/22/22	9:55 AM	79	South	5800 ALLWOOD	1,673	N/D	N/D	N/D	N/D	--	--	No												
11/22/22	9:55 AM	79	South	7301 S 51st Street	2,862	N/D	N/D	N/D	N/D	--	--													
11/22/22	9:54 AM	79	South	7526 S. 51st Street	1,762	0.035	95.0																	
11/22/22	9:54 AM	79	South	SE of Quarry	969	0.103	105.0																	
11/22/22	11:05 AM	80	North	5800 ALLWOOD	4,023	N/D	N/D	N/D	N/D	--	--	No												
11/22/22	11:02 AM	80	North	7301 S 51st Street	1,730	0.050	114.0	0.050	110.6	0.00	3.4													
11/22/22	11:05 AM	80	North	7526 S. 51st Street	2,346	N/D	N/D																	
11/22/22	11:05 AM	80	North	SE of Quarry	3,074	N/D	N/D																	
12/1/22	11:22 AM	81	North	5800 ALLWOOD	4,003	N/D	N/D	N/D	N/D	--	--	No												
12/1/22	11:22 AM	81	North	7301 S 51st Street	1,703	0.040	118.0	N/D	N/D	--	--													
12/1/22	11:22 AM	81	North	7526 S. 51st Street	2,311	N/D	N/D																	
12/1/22	11:22 AM	81	North	SE of Quarry	3,041	N/D	N/D																	
12/8/22	12:15 PM	82	North	5800 ALLWOOD	3,944	N/D	N/D	N/D	N/D	--	--	No												
12/8/22	12:17 PM	82	North	7301 S 51st Street	1,894	0.033	113.0	N/D	N/D	--	--													
12/8/22	12:15 PM	82	North	7526 S. 51st Street	2,442	N/D	N/D																	
12/8/22	12:15 PM	82	North	SE of Quarry	3110	N/D	N/D																	
12/19/22	11:05 AM	83	South	5800 ALLWOOD	1,519	0.070	107.0	0.070	98.8	0.00	8.2	Yes	3	South	Variable	3	none	29.67	65	Mostly Cloudy	none	19		
12/19/22	11:00 AM	83	South	7301 S 51st Street	2,977	N/D	N/D	N/D	N/D	--	--													
12/19/22	11:05 AM	83	South	7526 S. 51st Street	2,041	0.048	101.0																	
12/19/22	11:05 AM	83	South	SE of Quarry	1418	0.050	110.0																	
Totals		18											4	9										

Notes: Shaded cells do not have a meter in that location
N/D = not detected, meter did not detect blast

FIGURE 1

SEISMIC MONITORING, BLASTING, AND COMPLAINT LOCATIONS, 4th QUARTER 2022

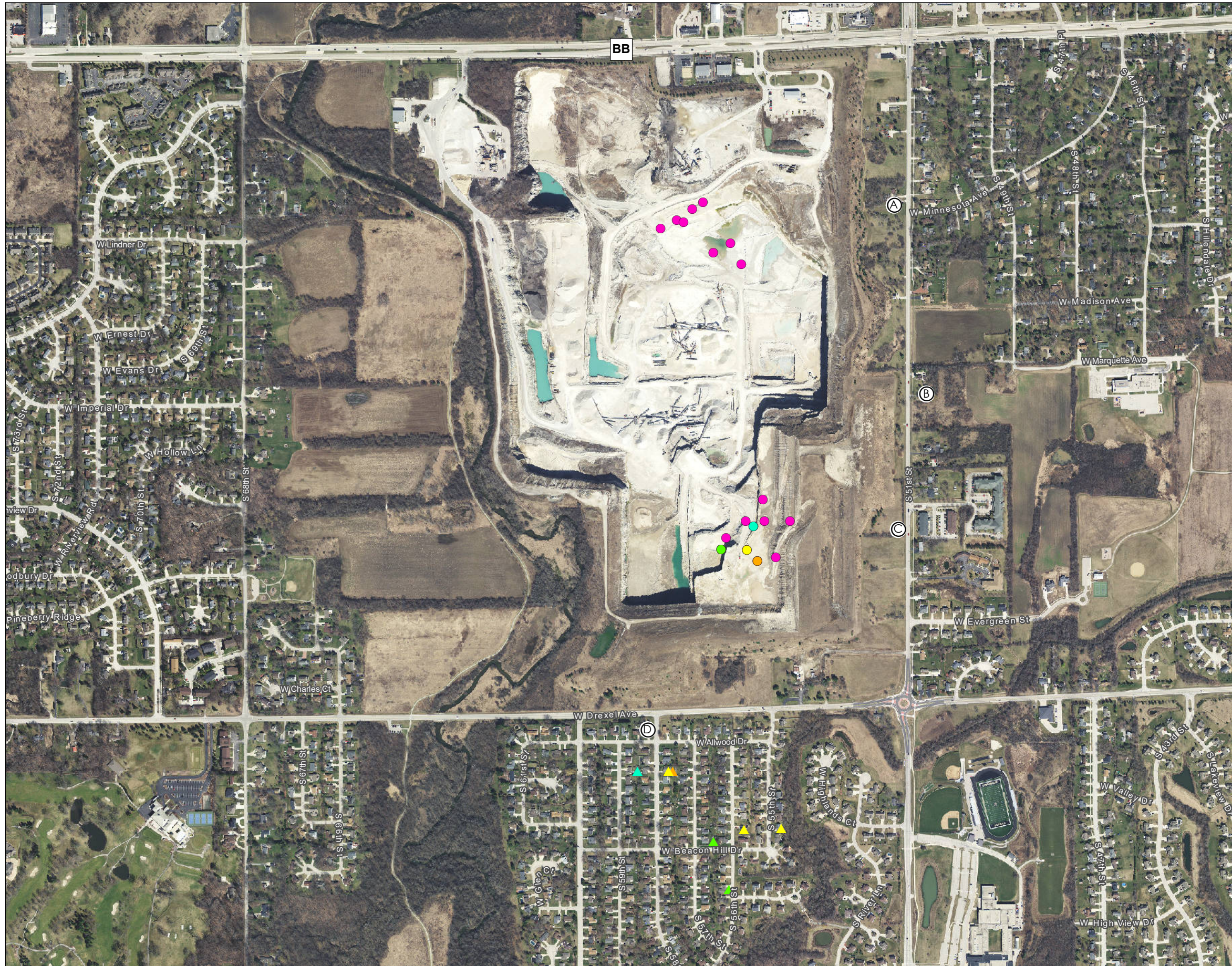


Figure No.

1

Title

Seismic Monitoring, Blasting, and Complaint Locations - 4th Quarter 2022

Client/Project
City of Franklin
Vicinity of Payne and Dolan Quarry

193707487

Project Location
C. of Franklin, Milwaukee Co., WI

Prepared by
AJS on 2023-01-10
TR by RA on 2023-01-10
IR by KGI on 2023-01-10



0 400 800 Feet
(At original document size of 11x17)
1:9,600

Legend

Seismic Monitoring Location

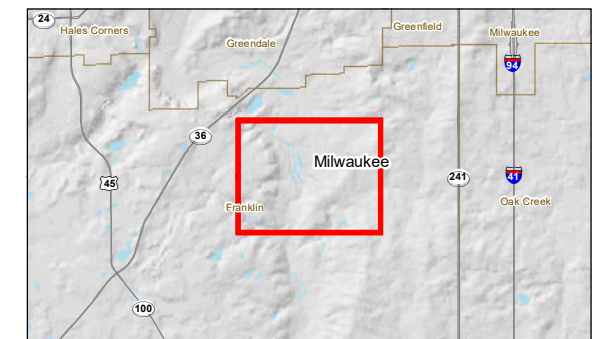
- (A) Vibra-Tech(VT1) and Stantec(S1)
- (B) Vibra-Tech(VT2)
- (C) Vibra-Tech(VT3)
- (D) Vibra-Tech(VT4) and Stantec(S2)

Blast Location

- Non-complaint Blast Location
- Blast #68
- Blast #73
- Blast #75
- Blast #83

Blast Complaint

- ▲ Blast #68
- ▲ Blast #73
- ▲ Blast #75
- ▲ Blast #83



- Notes
1. Coordinate System: NAD 1983 StatePlane Wisconsin South FIPS 4803 Feet
 2. Data Sources: Stantec, SCO, WDNR, WisDOT
 3. Orthophotography: 2020 Milwaukee Co. WROC



Franklin Aggregates
Recorded Ground Vibration and Airblast Levels for PDDs #23 & 24
October 2022

Time	Activity	Location	Distance	PPV	Freq	AO
10/31/2022 11:45	73	5800 ALLWOOD	1,566	0.053	33.3	113
10/31/2022 11:45	73	7526 S. 51st Street	1,884	0.095	23.8	106
10/31/2022 11:45	73	SE of Quarry	1,129	0.118	29.4	108
10/31/2022 11:45	73	7301 S 51st Street	2,937	N/T	N/T	N/A
10/27/2022 10:20	72	5800 ALLWOOD	1,616	0.045	15.2	102
10/27/2022 10:20	72	7526 S. 51st Street	1,945	0.06	13.5	98
10/27/2022 10:20	72	SE of Quarry	1,358	0.065	21.7	110
10/27/2022 10:20	72	7301 S 51st Street	2,877	N/T	N/T	N/A
10/24/2022 9:36	71	5800 ALLWOOD	2,011	N/T	N/T	N/A
10/24/2022 9:36	71	7526 S. 51st Street	1,527	N/T	N/T	N/A
10/24/2022 9:36	71	SE of Quarry	1,105	0.055	45.5	103
10/24/2022 9:36	71	7301 S 51st Street	2,476	N/T	N/T	N/A
10/14/2022 13:43	70	5800 ALLWOOD	3,805	N/T	N/T	N/A
10/14/2022 13:43	70	7526 S. 51st Street	1,966	0.073	17.2	115
10/14/2022 13:43	70	SE of Quarry	2,708	0.023	21.7	111
10/14/2022 13:43	70	7301 S 51st Street	1,463	0.125	38.5	115
10/10/2022 12:38	69	5800 ALLWOOD	4,135	N/T	N/T	N/A
10/10/2022 12:38	69	7526 S. 51st Street	2,303	0.133	22.7	120
10/10/2022 12:38	69	SE of Quarry	3,090	0.033	20.8	114
10/10/2022 12:38	69	7301 S 51st Street	1,601	0.088	19.2	123
10/10/2022 12:32	68	5800 ALLWOOD	1,618	0.08	41.7	108
10/10/2022 12:32	68	7526 S. 51st Street	1,863	0.055	26.3	104
10/10/2022 12:32	68	SE of Quarry	1,188	0.143	31.3	108
10/10/2022 12:32	68	7301 S 51st Street	2,872	N/T	N/T	N/A
10/4/2022 12:39	67	5800 ALLWOOD	4,194	N/T	N/T	N/A
10/4/2022 12:39	67	7526 S. 51st Street	2,274	N/T	N/T	N/A
10/4/2022 12:39	67	SE of Quarry	3,093	N/T	N/T	N/A
10/4/2022 12:39	67	7301 S 51st Street	1,523	0.043	26.3	112
10/4/2022 12:27	66	5800 ALLWOOD	3,895	N/T	N/T	N/A
10/4/2022 12:27	66	7526 S. 51st Street	1,899	0.068	11.1	115
10/4/2022 12:27	66	SE of Quarry	2,701	0.023	15.2	112
10/4/2022 12:27	66	7301 S 51st Street	1,319	0.143	35.7	110

PDD Vibration Limit - Per the PDD #23 and #24 Ordinances, ground vibration resulting from P&D blasting shall not exceed 0.30 inches per second on at least 85% of its blasts within any single calendar year. The Operator shall not exceed the ground vibration limitation imposed by the Wisconsin Department of Industry, Labor and Human Relations in Figure 7.64 of ch. ILHR 7, Wis. Adm. Code (new reference now Wis. Adm. Code, Safety and Professional Services Chapter 307), or 0.65 inches per second, whichever is more restrictive, on any blast.

PDD Airblast Limit - Per the PDD #23 and #24 Ordinances, airblast resulting from P&D blasting shall not exceed 123 dB on at least 85% of its blasts within any single calendar year. The Operator shall not exceed the airblast limitation imposed by the Wisconsin Department of Industry, Labor and Human Relations in ch. ILHR 7, Wis. Adm. Code on any blast (new reference now Wis. Adm. Code, Safety and Professional Services [SPS] Chapter 307).

Franklin Aggregates
Recorded Ground Vibration and Airblast Levels for PDDs #23 & 24
November 2022

Time	Activity	Location	Distance	PPV	Freq	AO
11/22/2022 11:02	80	5800 ALLWOOD	4,023	N/T	N/T	N/A
11/22/2022 11:02	80	7526 S. 51st Street	2,346	N/T	N/T	N/A
11/22/2022 11:02	80	SE of Quarry	3,074	N/T	N/T	N/A
11/22/2022 11:02	80	7301 S 51st Street	1,730	0.05	10	114
11/22/2022 9:54	79	5800 ALLWOOD	1,673	N/T	N/T	N/A
11/22/2022 9:54	79	7526 S. 51st Street	1,762	0.035	14.3	95
11/22/2022 9:54	79	SE of Quarry	969	0.103	38.5	105
11/22/2022 9:54	79	7301 S 51st Street	2,862	N/T	N/T	N/A
11/16/2022 9:53	78	5800 ALLWOOD	1,794	N/T	N/T	N/A
11/16/2022 9:53	78	7526 S. 51st Street	1,742	0.035	19.2	93
11/16/2022 9:53	78	SE of Quarry	1,205	0.1	31.3	103
11/16/2022 9:53	78	7301 S 51st Street	2,693	N/T	N/T	N/A
11/15/2022 11:45	77	5800 ALLWOOD	3,722	N/T	N/T	N/A
11/15/2022 11:45	77	7526 S. 51st Street	1,718	0.078	12.8	119
11/15/2022 11:45	77	SE of Quarry	2,493	0.028	17.2	117
11/15/2022 11:45	77	7301 S 51st Street	1,281	0.155	38.5	111
11/11/2022 13:02	76	5800 ALLWOOD	1,864	0.045	38.5	112
11/11/2022 13:02	76	7526 S. 51st Street	1,625	0.075	22.7	106
11/11/2022 13:02	76	SE of Quarry	1,059	0.145	33.3	110
11/11/2022 13:02	76	7301 S 51st Street	2,629	N/T	N/T	N/A
11/10/2022 10:50	75	5800 ALLWOOD	1,782	0.053	33.3	111
11/10/2022 10:50	75	7526 S. 51st Street	1,725	0.085	23.8	107
11/10/2022 10:50	75	SE of Quarry	1,149	0.193	31.3	109
11/10/2022 10:50	75	7301 S 51st Street	2,707	0.035	38.5	108
11/4/2022 11:50	74	5800 ALLWOOD	1,972	0.043	31.3	114
11/4/2022 11:50	74	7526 S. 51st Street	1,476	0.055	25	108
11/4/2022 11:50	74	SE of Quarry	861	0.13	31.3	113
11/4/2022 11:50	74	7301 S 51st Street	2,554	N/T	N/T	N/A

PDD Vibration Limit - Per the PDD #23 and #24 Ordinances, ground vibration resulting from P&D blasting shall not exceed 0.30 inches per second on at least 85% of its blasts within any single calendar year. The Operator shall not exceed the ground vibration limitation imposed by the Wisconsin Department of Industry, Labor and Human Relations in Figure 7.64 of ch. ILHR 7, Wis. Adm. Code (new reference now Wis. Adm. Code, Safety and Professional Services Chapter 307), or 0.65 inches per second, whichever is more restrictive, on any blast.

PDD Airblast Limit - Per the PDD #23 and #24 Ordinances, airblast resulting from P&D blasting shall not exceed 123 dB on at least 85% of its blasts within any single calendar year. The Operator shall not exceed the airblast limitation imposed by the Wisconsin Department of Industry, Labor and Human Relations in ch. ILHR 7, Wis. Adm. Code on any blast (new reference now Wis. Adm. Code, Safety and Professional Services [SPS] Chapter 307).

Franklin Aggregates
Recorded Ground Vibration and Airblast Levels for PDDs #23 & 24
December 2022

Time	Activity	Location	Distance	PPV	Freq	AO
12/19/2022 11:05	83	5800 ALLWOOD	1,519	0.07	7.1	107
12/19/2022 11:05	83	7526 S. 51st Street	2,041	0.048	8.8	101
12/19/2022 11:05	83	SE of Quarry	1,418	0.05	12.5	110
12/19/2022 11:05	83	7301 S 51st Street	2,977	N/T	N/T	N/A
12/8/2022 12:15	82	5800 ALLWOOD	3,944	N/T	N/T	N/A
12/8/2022 12:15	82	7526 S. 51st Street	2,442	N/T	N/T	N/A
12/8/2022 12:15	82	SE of Quarry	3,110	N/T	N/T	N/A
12/8/2022 12:15	82	7301 S 51st Street	1,894	0.033	8.5	113
12/1/2022 11:22	81	5800 ALLWOOD	4,003	N/T	N/T	N/A
12/1/2022 11:22	81	7526 S. 51st Street	2,311	N/T	N/T	N/A
12/1/2022 11:22	81	SE of Quarry	3,041	N/T	N/T	N/A
12/1/2022 11:22	81	7301 S 51st Street	1,703	0.04	8.5	118

PDD Vibration Limit - Per the PDD #23 and #24 Ordinances, ground vibration resulting from P&D blasting shall not exceed 0.30 inches per second on at least 85% of its blasts within any single calendar year. The Operator shall not exceed the ground vibration limitation imposed by the Wisconsin Department of Industry, Labor and Human Relations in Figure 7.64 of ch. ILHR 7, Wis. Adm. Code (new reference now Wis. Adm. Code, Safety and Professional Services Chapter 307), or 0.65 inches per second, whichever is more restrictive, on any blast.

PDD Airblast Limit - Per the PDD #23 and #24 Ordinances, airblast resulting from P&D blasting shall not exceed 123 dB on at least 85% of its blasts within any single calendar year. The Operator shall not exceed the airblast limitation imposed by the Wisconsin Department of Industry, Labor and Human Relations in ch.ILHR 7, Wis. Adm. Code on any blast (new reference now Wis. Adm. Code, Safety and Professional Services [SPS] Chapter 307).