

CITY OF FRANKLIN  
QUARRY MONITORING COMMITTEE\*  
MEETING AGENDA

**\*REVISED**

Franklin City Hall, \*Inspection Services Conference Room  
9229 West Loomis Road, Franklin, Wisconsin 53132  
Tuesday, October 24, 2023, 6:00 p.m.

- I. Call to Order, Roll Call and Pledge of Allegiance
- II. Approval of Minutes
  - a. Regular meeting of August 22, 2023.
- 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. Business (Action may be taken on any item)
  - a. Quarterly presentation by Stantec Consulting Services, Inc., 3rd quarter of calendar year 2023 (July, August and September).
  - b. Review and discussion on matters pertaining to citizen complaints, blasting data from Payne & Dolan and Stantec (the City's consultant).
  - c. Discussion about quarry monitoring scope of services for calendar year 2024.
- V. Meeting scheduling discussion
- VI. 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**  
**August 22, 2023**  
**Minutes**

unapproved

**I. CALL TO ORDER**

The August 22, 2023, Quarry Monitoring Committee meeting was called to order by Alderman Mike Barber at 6:00 p.m. in the Council Chambers at City Hall.

Chair Alderman Mike Barber, Vice-Chair Dina Swanson, Alderman Yousef Hasan as well as members Edward Pings and Jon TenHaken were present. Also present were Principal Planner Régulo Martínez-Montilva; Clint Weninger and Wes Hinline of Payne & Dolan; and Kristen Gunderson-Inden of Stantec Consulting Services.

**II. APPROVAL OF MINUTES**

a. Regular meeting of May 23, 2023

Member TenHaken moved and Alderman Hasan seconded to approve the minutes as presented. On voice vote, all present voted 'aye'; the vote was 5-0-0, motion carried.

**III. CITIZEN COMMENT PERIOD**

Citizen comment period opened at 6:03 p.m. and closed at 6:03 p.m. No comments.

**IV. BUSINESS**

a. Quarterly presentation by Stantec Consulting Services, Inc., 2nd quarter of calendar year 2023 (April, May and June).

Kristen Gunderson-Inden presented the 2<sup>nd</sup> quarter report. No action taken.

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

Principal Planner Martinez-Montilva presented. No action taken.

c. Discussion about quarry monitoring scope of services for calendar year 2024.

Kristen Gunderson-Inden presented. No changes to scope of services at this time. Scope of services will be discussed at the next meeting. No action taken.

V. SCHEDULE NEXT MEETING

Next meeting is scheduled for October 24, 2023.

VI. ADJOURNMENT

Member Pings moved and member TenHaken seconded to adjourn the August 22, 2023 Quarry Monitoring Committee meeting at 6:33 p.m. All present voted 'aye'; motion carried.

DRAFT



Stantec Consulting Services Inc.  
12080 Corporate Parkway, Suite 200  
Mequon, Wisconsin 53092  
Tel: (262) 241-4466

October 11, 2023

Regulo Martínez-Montilva  
Principal Planner - Department of City Development  
City of Franklin  
9229 W. Loomis Road  
Franklin, Wisconsin 53132  
[RMartinez-Montilva@franklinwi.gov](mailto:RMartinez-Montilva@franklinwi.gov)

**Reference: City of Franklin, WI – Franklin Aggregates Quarry Monitoring Summary**  
**Period: 3rd Quarter 2023**  
**Stantec Project: 193709433**

Dear Mr. Martínez-Montilva:

The enclosed information summarizes monitoring activities completed during the third quarter of 2023 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.

Four observation events were completed during the monitoring period. Unannounced inspections were completed on July 25, August 9, and September 21. An announced inspection that included a tour inside of the pit area in addition to the exterior inspection was completed on July 13. The street sweeper was observed in use on Rawson Avenue during all four of the site visits. Minor amounts of dust were observed from trucks exiting to the east on Rawson during three of the four visits.

### **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 July 1 and September 30, 2023, a total of 15 blasting events occurred. Eleven of 15 (73%) 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.

- One of the blasting events measured by Payne & Dolan or Stantec had a vibration greater than 0.30 in/sec (Blast #31 on 8/3/23, 0.330 in/sec at the 7526 S. 51st Street meter). There were no complaints received on this date. There have been 39 blasts year to date in 2023, thus 97% 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. Note that one blast was detected at 123.0dB on the SE of Quarry meter on 7/24/23; there were no complaints received on this date. Thus 100% of the quarry's blasts this quarter were below this level. This 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 swapped out and recalibrated in the late July 2023 by the equipment vendor; 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 July 1 through September 30, 2023, 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**

- 3 complaints (formally submitted)
- 0 complaints – regarding noise
- 0 complaints – regarding dust
- 0 complaints – miscellaneous
- 3 complaints – regarding vibration

#### **Complaints – Blast Related**

- 2 complaints – corresponding to actual blast events
- 1 complaints – not corresponding to specific blast events
- 3 complaints – complainant location identified
  - 3 households that complained once this quarter

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

- 1 complaint – east of 51<sup>st</sup> Street

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Reference: City of Franklin, WI – Franklin Aggregates Quarry Monitoring Summary Period: 3Q2023

- 2 complaints – south of Drexel Avenue
- 0 complaints – west of Root River

#### Summary of Complaint Comments – Blast Related

- July 11, 2023 (highest readings at the 7526 S. 51st Street meter – 0.155 in/sec PPV and 5800 Allwood meter – 118.0 dB AO) – one complaint to the south – blast in the central pit
  - “Shook the house, rattled the windows.”
- August 3, 2023 (Resident does not recall the exact date/time, but City of Franklin form references blast on this date, cannot correlate to a specific blast event) – one complaint to the east
  - “I am a new resident of Franklin. Over (the) last couple months, we have felt strong tremors – when inquiring with the builder, was told it is due to the quarry. How long should I expect this to continue? How worried should I be about damages to (the) foundation of our newly built home?”
- September 20, 2023 (highest readings at the 7526 S. 51st Street meter – 0.248 in/sec PPV and 112.0 dB AO) – one complaint to south – blast in the southern pit
  - “Severe blast from the quarry shook my home, noticeably the floor I was standing on. Moved pictures on the wall.”

#### Blast Events

- 15 blast events - during monitoring period 3Q2023 (shot numbers 25 through 39)
- 1 one cannot be attributed to a specific blast (see August 3 description above)
- 2 blast events - corresponding to complaints
  - 0 weather: rain
  - 2 weather: haze, partly to mostly cloudy, or cloudy
  - 0 weather: clear, fair, or scattered clouds
  - 1 time: prior to 12:00 pm (noon)
  - 1 time: after 12:00 pm
- 2 blast events with one complaint

#### Quarry Blast Locations Producing Complaints

- 0 southern area of quarry
- 2 central area of quarry
- 1 northern area of quarry (see August 3 description above)

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.
- Two of complaints in this quarter originate from residences south of Drexel Avenue and one to the east of South 51<sup>st</sup> Street.
- One complaint came from a home in the new subdivision to the east of South 51<sup>st</sup> Street. This is the second complaint from this area.
- No blast this quarter had more than one complaint.



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Reference: City of Franklin, WI – Franklin Aggregates Quarry Monitoring Summary Period: 3Q2023

- One address this quarter has complained more than once so far year to date (once in the second quarter, once in the third quarter).
- No complaints came from west of the Root River.

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

Respectfully,

**STANTEC CONSULTING SERVICES INC.**

A handwritten signature in blue ink, appearing to read 'Kristen Gunderson-Inden'.

Kristen Gunderson-Inden  
Senior Environmental Scientist

A handwritten signature in blue ink, appearing to read 'Michael B. Roznowski'.

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 – 3rd Quarter 2023  
                      Figure 1 - Seismic Monitoring, Blasting, and Complaint Locations, 3rd Quarter 2023

# **ATTACHMENT A**

FRANKLIN QUARRY SEISMIC MONITORING DESCRIPTION OF SERVICES



## **DESCRIPTION OF SERVICES**

### **Direct Observation (Visual) Monitoring**

During 2023, Stantec will conduct a total of eight (8) 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 are planned to 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 SharePoint 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 SharePoint 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 2023, 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 2023.

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 51<sup>st</sup> 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 – 3rd QUARTER 2023

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	Distance (feet)	PPV (in/sec)	AO (dB)	PPV (in/sec)	AO (dB)	Difference in PPV Values	Difference 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)
7/11/2023	11:20 AM	25	central	5800 ALLWOOD	2,256	0.050	118.0	0.060	112.3	-0.010	5.7	yes	1	south	NW	14	22	29.15	68	partly cloudy	none	73
7/11/2023	11:20 AM	25	central	7301 S 51st Street	2,231	0.050	109.0	0.060	112.3	-0.010	-3.3											
7/11/2023	11:20 AM	25	central	7526 S. 51st Street	1336	0.155	111.0															
7/11/2023	11:20 AM	25	central	SE of Quarry	1,125	0.145	105.0															
7/13/2023	10:29 AM	26	central	5800 ALLWOOD	2,335	0.030	115.0	N/D	N/D	--	--	no										
7/13/2023	10:29 AM	26	central	7301 S 51st Street	2,152	0.075	109.0	0.035	109.5	0.040	-0.5											
7/13/2023	10:29 AM	26	central	7526 S. 51st Street	1,287	0.195	111.0															
7/13/2023	10:29 AM	26	central	SE of Quarry	1,156	0.118	112.0															
7/18/2023	12:23 PM	27	central	5800 ALLWOOD	2,568	0.035	116.0	0.035	109.5	0.000	6.5	no										
7/18/2023	12:23 PM	27	central	7301 S 51st Street	1,927	0.070	111.0	0.058	109.90	0.013	1.1											
7/18/2023	12:23 PM	27	central	7526 S. 51st Street	1,190	0.230	111.0															
7/18/2023	12:23 PM	27	central	SE of Quarry	1,305	0.118	110.0															
7/24/2023	10:00 AM	28	central	5800 ALLWOOD	2,372	0.053	117.0	0.058	109.9	-0.005	7.1	no										
7/24/2023	10:00 AM	28	central	7301 S 51st Street	2,125	0.045	115.0	0.055	107.0	-0.010	8.0											
7/24/2023	10:00 AM	28	central	7526 S. 51st Street	1,338	0.238	122.0															
7/24/2023	10:00 AM	28	central	SE of Quarry	1,275	0.133	123.0															
7/27/2023	11:48 AM	29	central	5800 ALLWOOD	2,339	0.028	112.0	N/D	N/D	--	--	no										
7/27/2023	11:48 AM	29	central	7301 S 51st Street	2149	0.035	101.0	N/D	N/D	--	--											
7/27/2023	11:48 AM	29	central	7526 S. 51st Street	1,253	0.093	99.0															
7/27/2023	11:48 AM	29	central	SE of Quarry	1,106	0.085	98.0															
7/27/2023	11:54 AM	30	central	5800 ALLWOOD	2,443	0.023	114.0	N/D	N/D	--	--	no										
7/27/2023	11:54 AM	30	central	7301 S 51st Street	2045	0.058	106.0	0.053	102.8	0.006	3.2											
7/27/2023	11:54 AM	30	central	7526 S. 51st Street	1,207	0.218	109.0															
7/27/2023	11:54 AM	30	central	SE of Quarry	1,179	0.138	103.0															
8/3/2023	9:56 AM	31	central	5800 ALLWOOD	2,295	0.033	115.0	0.060	112.3	-0.027	2.7	no										
8/3/2023	9:56 AM	31	central	7301 S 51st Street	2,196	0.050	112.0	0.060	112.3	-0.010	-0.3											
8/3/2023	9:56 AM	31	central	7526 S. 51st Street	1,251	<b>0.330</b>	117.0															
8/3/2023	9:56 AM	31	central	SE of Quarry	1,031	0.193	117.0															
8/10/2023	9:20 AM	32	north	5800 ALLWOOD	4,052	N/D	N/D	N/D	N/D	--	--	1 possible (see report)	1	east	WNW	10	none	28.99	66	fair	none	73
8/10/2023	9:20 AM	32	north	7301 S 51st Street	1,619	0.058	118.0	0.035	109.5	0.023	8.5											
8/10/2023	9:20 AM	32	north	7526 S. 51st Street	2,269	0.050	118.0															
8/10/2023	9:20 AM	32	north	SE of Quarry	3,032	N/D	N/D															
8/30/2023	12:15 PM	33	central	5800 ALLWOOD	2,594	N/D	N/D	N/D	N/D	--	--	no										
8/30/2023	12:15 PM	33	central	7301 S 51st Street	1,893	N/D	N/D	N/D	N/D	--	--											
8/30/2023	12:14 PM	33	central	7526 S. 51st Street	1081	0.095	108.0															
8/30/2023	12:14 PM	33	central	SE of Quarry	1,199	0.048	106.0															
9/5/2023	11:04 AM	34	central	5800 ALLWOOD	2,468	0.023	111.0	N/D	N/D	--	--											
9/5/2023	11:04 AM	34	central	7301 S 51st Street	2,019	0.045	110.0	0.060	112.30	-0.015	-2.3											
9/5/2023	11:04 AM	34	central	7526 S. 51st Street	1,174	0.173	108.0															
9/5/2023	11:04 AM	34	central	SE of Quarry	1,165	0.123	103.0															
9/7/2023	11:54 AM	35	central	5800 ALLWOOD	2,107	0.053	111.0	0.060	112.3	-0.007	-1.3											
9/7/2023	11:54 AM	35	central	7301 S 51st Street	2384	0.038	111.0	N/D	N/D	--	--											
9/7/2023	11:54 AM	35	central	7526 S. 51st Street	1,514	0.145	113.0															
9/7/2023	11:54 AM	35	central	SE of Quarry	1,219	0.193	111.0															

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	Distance (feet)	PPV (in/sec)	AO (dB)	PPV (in/sec)	AO (dB)	Difference in PPV Values	Difference 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)		
9/18/2023	11:52 AM	36	central	5800 ALLWOOD	2,420	0.030	111.0	N/D	N/D	--	--													
9/18/2023	11:52 AM	36	central	7301 S 51st Street	2,070	0.038	112.0	0.035	109.5	0.003	2.5													
9/18/2023	11:52 AM	36	central	7526 S. 51st Street	1,160	0.283	109.0																	
9/18/2023	11:52 AM	36	central	SE of Quarry	1,073	0.190	106.0																	
9/20/2023	12:15 PM	37	central	5800 ALLWOOD	2,342	0.043	112.0	0.035	109.5	0.008	2.5	yes	1	south	S	8	none	29.28	60	mostly cloudy	none	76		
9/20/2023	12:15 PM	37	central	7301 S 51st Street	2,150	0.038	110.0	N/D	N/D	--	--													
9/20/2023	12:15 PM	37	central	7526 S. 51st Street	1,211	0.248	112.0																	
9/20/2023	12:15 PM	37	central	SE of Quarry	1,036	0.170	110.0																	
9/28/2023	2:44 PM	38	central	5800 ALLWOOD	2,301	0.028	110.0	N/D	N/D	--	--													
9/28/2023	2:44 PM	38	central	7301 S 51st Street	2,193	0.040	105.0	N/D	N/D	--	--													
9/28/2023	2:44 PM	38	central	7526 S. 51st Street	1,233	0.135	107.0																	
9/28/2023	2:44 PM	38	central	SE of Quarry	1,004	0.145	106.0																	
9/29/2023	11:15 AM	39	central	5800 ALLWOOD	2,380	N/T	N/A	N/D	N/D	--	--													
9/29/2023	11:15 AM	39	central	7301 S 51st Street	2,108	N/T	N/A	N/D	N/D	--	--													
9/29/2023	11:15 AM	39	central	7526 S. 51st Street	1,224	0.103	106.0																	
9/29/2023	11:15 AM	39	central	SE of Quarry	1,119	0.110	105.0																	
<b>Totals</b>		<b>15</b>	<b>blast events</b>										<b>3</b>	<b>events with complaints / total complaints</b>										

**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, 3rd QUARTER 2023



V:\1937\Active\19370943303\_data\gis\_cad\gis\mxd\2023\_3rd\_Quarter\_Report\fig1\_Seismic\_Complaints\_19370487.mxd Revised: 2023-10-10 By: aswam

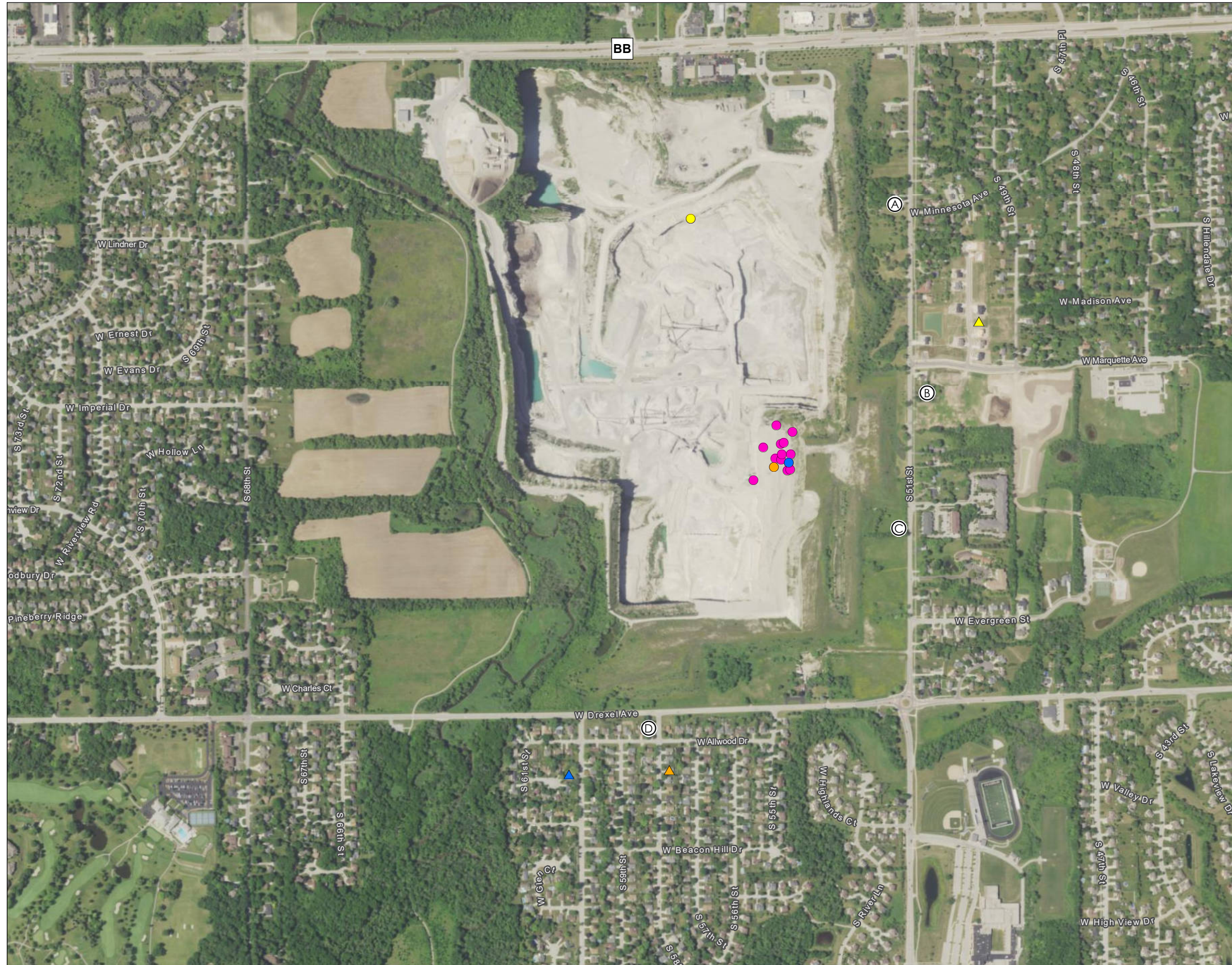
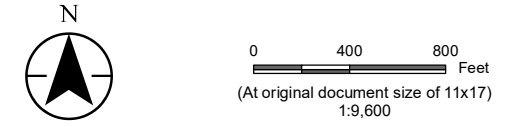
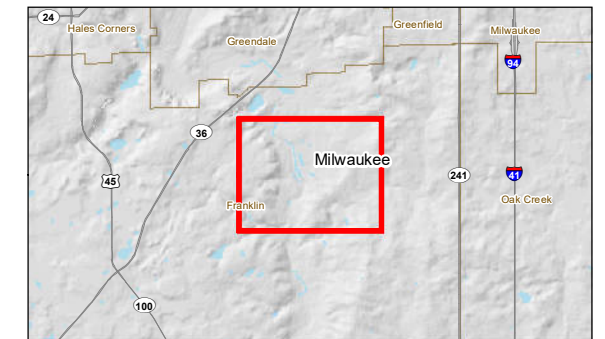


Figure No. **1**  
Title **Seismic Monitoring, Blasting, and Complaint Locations - 3rd Quarter 2023**  
Client/Project City of Franklin 193709433  
Vicinity of Payne and Dolan Quarry  
Project Location C. of Franklin, Milwaukee Co., WI Prepared by AJS on 2023-10-10  
TR by DG on 2023-10-10  
IR by KGI on 2023-10-10



- 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 #25
  - Blast #32
  - Blast #37
- Blast Complaint
- ▲ Blast #25
  - ▲ Blast #32
  - ▲ Blast #37



Notes  
1. Coordinate System: NAD 1983 StatePlane Wisconsin South FIPS 4803 Feet  
2. Data Sources: Stantec, SCO, WDNR, WisDOT  
3. Orthophotography: 2022 NAIIP



**Franklin Aggregates**  
**Recorded Ground Vibration and Airblast Levels for PDDs #23 & 24**  
**July 2023**

Time	Activity	Location	Distance	PPV	Freq	AO
7/27/2023 11:54	30	5800 ALLWOOD	2,443	0.023	17.9	114
7/27/2023 11:54	30	7526 S. 51st Street	1,207	0.218	22.7	109
7/27/2023 11:54	30	SE of Quarry	1,179	0.138	25	103
7/27/2023 11:54	30	7301 S 51st Street	2,045	0.058	14.7	106
7/27/2023 11:48	29	5800 ALLWOOD	2,339	0.028	13.5	112
7/27/2023 11:48	29	7526 S. 51st Street	1,253	0.093	16.1	99
7/27/2023 11:48	29	SE of Quarry	1,106	0.085	21.7	98
7/27/2023 11:48	29	7301 S 51st Street	2,149	0.035	23.8	101
7/24/2023 10:00	28	5800 ALLWOOD	2,372	0.053	15.6	117
7/24/2023 10:00	28	7526 S. 51st Street	1,338	0.238	25	122
7/24/2023 10:00	28	SE of Quarry	1,275	0.133	25	123
7/24/2023 10:00	28	7301 S 51st Street	2,125	0.045	11.9	115
7/18/2023 12:23	27	5800 ALLWOOD	2,568	0.035	11.9	116
7/18/2023 12:23	27	7526 S. 51st Street	1,190	0.23	8.2	111
7/18/2023 12:23	27	SE of Quarry	1,305	0.118	20.8	110
7/18/2023 12:23	27	7301 S 51st Street	1,927	0.07	10	111
7/13/2023 10:29	26	5800 ALLWOOD	2,335	0.03	11.4	115
7/13/2023 10:29	26	7526 S. 51st Street	1,287	0.195	29.4	111
7/13/2023 10:29	26	SE of Quarry	1,156	0.118	38.5	112
7/13/2023 10:29	26	7301 S 51st Street	2,152	0.075	13.5	109
7/11/2023 11:20	25	5800 ALLWOOD	2,256	0.05	16.1	118
7/11/2023 11:20	25	7526 S. 51st Street	1,336	0.155	29.4	111
7/11/2023 11:20	25	SE of Quarry	1,125	0.145	17.2	105
7/11/2023 11:20	25	7301 S 51st Street	2,231	0.05	10.6	109

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**  
**August 2023**

Time	Activity	Location	Distance	PPV	Freq	AO
8/30/2023 12:14	33	5800 ALLWOOD	2,594	N/T	N/T	N/A
8/30/2023 12:14	33	7526 S. 51st Street	1,081	0.095	25	108
8/30/2023 12:14	33	SE of Quarry	1,199	0.048	29.4	106
8/30/2023 12:14	33	7301 S 51st Street	1,893	N/T	N/T	N/A
8/10/2023 9:20	32	5800 ALLWOOD	4,052	N/T	N/T	N/A
8/10/2023 9:20	32	7526 S. 51st Street	2,269	0.05	12.2	118
8/10/2023 9:20	32	SE of Quarry	3,032	N/T	N/T	N/A
8/10/2023 9:20	32	7301 S 51st Street	1,619	0.058	7.2	118
8/3/2023 9:56	31	5800 ALLWOOD	2,295	0.033	12.5	115
8/3/2023 9:56	31	7526 S. 51st Street	1,251	0.33	27.8	117
8/3/2023 9:56	31	SE of Quarry	1,031	0.193	26.3	117
8/3/2023 9:56	31	7301 S 51st Street	2,196	0.05	12.8	112

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**  
**September 2023**

Time	Activity	Location	Distance	PPV	Freq	AO
9/29/2023 11:15	39	5800 ALLWOOD	2,380	N/T	N/T	N/A
9/29/2023 11:15	39	7526 S. 51st Street	1,224	0.103	20	106
9/29/2023 11:15	39	SE of Quarry	1,119	0.11	35.7	105
9/29/2023 11:15	39	7301 S 51st Street	2,108	N/T	N/T	N/A
9/28/2023 14:44	38	5800 ALLWOOD	2,301	0.028	25	110
9/28/2023 14:44	38	7526 S. 51st Street	1,233	0.135	29.4	107
9/28/2023 14:44	38	SE of Quarry	1,004	0.145	26.3	106
9/28/2023 14:44	38	7301 S 51st Street	2,193	0.04	10.9	105
9/20/2023 12:15	37	5800 ALLWOOD	2,342	0.043	20	112
9/20/2023 12:15	37	7526 S. 51st Street	1,211	0.248	26.3	112
9/20/2023 12:15	37	SE of Quarry	1,036	0.17	31.3	110
9/20/2023 12:15	37	7301 S 51st Street	2,150	0.038	9.6	110
9/18/2023 11:52	36	5800 ALLWOOD	2,420	0.03	25	111
9/18/2023 11:52	36	7526 S. 51st Street	1,160	0.283	27.8	109
9/18/2023 11:52	36	SE of Quarry	1,073	0.19	25	106
9/18/2023 11:52	36	7301 S 51st Street	2,070	0.038	20.8	112
9/7/2023 11:54	35	5800 ALLWOOD	2,107	0.053	31.3	111
9/7/2023 11:54	35	7526 S. 51st Street	1,514	0.145	25	113
9/7/2023 11:54	35	SE of Quarry	1,219	0.193	25	111
9/7/2023 11:54	35	7301 S 51st Street	2,384	0.038	13.9	111
9/5/2023 11:04	34	5800 ALLWOOD	2,468	0.023	25	111
9/5/2023 11:04	34	7526 S. 51st Street	1,174	0.173	26.3	108
9/5/2023 11:04	34	SE of Quarry	1,165	0.123	13.9	103
9/5/2023 11:04	34	7301 S 51st Street	2,019	0.045	9.4	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).

## ATTACHMENT A - QUARRY MONITORING SERVICES

### SCOPE OF WORK AND ASSOCIATED COST

The following scope of work items, each with their own associated professional fee, is offered to the City by Stantec for calendar year 2024.

DESCRIPTION	EVENT PERIOD	COST PER EVENT	# OF EVENTS	SUBTOTAL	NOTES REGARDING SCOPE OF SERVICES
<b>Operations Monitoring</b>	daily	\$880	16	\$14,080	Visual assessments around quarry perimeter, concentrating on Rawson Avenue adjacent to the quarry entrances. Will include weather data as part of observation summary, along with photos and short duration videos during periods of high winds. A percentage of the visits will also include on-site observations and records review.
<b>Blast Monitoring</b>	monthly	\$2,000	12	\$24,000	Stantec will provide remote vibration monitoring by using Nomis Seismographs. We plan to subcontract Sauls Seismic to assist with this scope of work. Two separate seismographs will be installed, each co-located with two existing Payne & Dolan (Vibra-Tech) monitors located at: 7301 S. 51 <sup>st</sup> Street and 5800 W. Allwood Drive. Each monitor will be provided with an enclosure and will either be pole mounted or located in a short-stack weatherproof enclosure. Power will be provided via an internal battery and an external battery connected to a solar panel. All maintenance/repair and annual calibration of seismographs are included. This type of configuration will provide continuous (24/7) remote monitoring (except during calibrations & maintenance actions), allowing Stantec to have access to data anytime via the Internet. No written reports or summaries will be provided monthly.
<b>Exceptional Blast Complaint Evaluation</b>	Per City request	\$1,200	1	\$1,200	For unusual blast events (e.g., resulting in multiple complaints), at the City's request, Stantec will prepare a brief summary report describing: seismic data from both Stantec/Payne & Dolan placed monitors; wind direction and speed the day of the complaint, a figure showing blast and complaint locations. (Note: If no exceptional blast complaints occur, this portion of the budget may be used for another purpose as requested by the City.)
<b>Quarterly Reports and Presentation</b>	Quarterly (May, August, November 2024, and February 2025)	\$3,930	4	\$15,720	<p>Stantec will prepare a quarterly report (to be distributed/presented as part of the regularly scheduled Quarry Monitoring Committee meetings) describing:</p> <ul style="list-style-type: none"> <li>• Operations monitoring completed in prior quarter</li> <li>• Blast monitoring completed in prior quarter (summary of blasting data, comparing the Payne &amp; Dolan unit recordings, to the Stantec unit recordings)</li> <li>• Citizen complaints received by the City of Franklin in prior quarter <ul style="list-style-type: none"> <li>○ For off-site dust complaints <ul style="list-style-type: none"> <li>▪ weather conditions (wind direction and speed) the day of the complaint</li> </ul> </li> <li>○ For off-site seismic complaints <ul style="list-style-type: none"> <li>▪ seismic data from both Stantec and Payne &amp; Dolan placed monitors</li> <li>▪ weather conditions (wind direction and speed; temp.; humidity; precipitation) the day of the complaint</li> <li>▪ a figure showing locations of blasts along with location of complaints</li> <li>▪ a short summary of the nature of any complaints</li> </ul> </li> </ul> </li> </ul> <p>The quarterly report and presentation in February 2025 will also present highlights of the operations, blast monitoring, and complaint evaluations, completed during calendar year 2024. This annual report is not meant to repeat what has already been provided in the prior quarterly reports; rather, it is intended to be a brief summary.</p>

**\$55,000 TOTAL (compared to budget: \$55,000)**

**Note:** The number of Exceptional Blast Complaint Evaluations is estimated, since the exact number cannot be determined at this time. In addition, based on prior years Stantec is estimating approximately 25 different blasts will result in complaints needing to be evaluated as part of the quarterly reports and presentations. Stantec agrees to be flexible with the City regarding this scope of work as the year progresses as the actual number of events are determined, and agrees not to exceed the approved budget without prior approval.