Phillips Lytle LLP

Via Email and U.S. Mail

January 23, 2015

Mr. Scott E. Sheeley
Regional Permit Administrator
DEC Region 8
6274 Avon-Lima Road
Avon, New York 14414-9519

Re: Public Comment on the Draft Environmental Impact Statement ("EIS")
Frontier Stone, LLC
4172 East Lake Road
Wilson, New York 14172

Dear Mr. Sheeley:

We are writing on behalf of the Genesee County Industrial Development Agency d/b/a the Genesee County Economic Development Corporation ("GCEDC") and its non-profit real estate affiliate, the Genesee Gateway Local Development Corporation ("GGLDC") (collectively, "Project Sponsor"). We previously provided comments on the Draft EIS for Frontier Stone, LLC's ("Frontier Stone") proposed 215.5± acre dolomite/limestone quarry in the Town of Shelby, Orleans County ("Proposed Project").

As the New York State Department of Environmental Conservation ("NYSDEC") is aware, the development of the Western NY Science, Technology, and Advanced Manufacturing Park ("STAMP") began in 2006 with a feasibility study, followed by a multi-year environmental review, which was then followed by the purchase and acquisition from numerous properties within the STAMP footprint. The STAMP Project Sponsor now owns more than 850 acres of land in the Town of Alabama ("Site"). The STAMP Project Sponsor has been working diligently over the last nine years to develop STAMP to support and attract large scale semiconductor and nanotechnology based research, development and manufacturing and is close to securing its first tenant. The STAMP Project Sponsor has completed an extensive process to prepare and market the Site, including completing an Environmental Impact Statement ("STAMP EIS") and

ATTORNEYS AT LAW

ADAM S. WALTERS, PARTNER DIRECT 716 847 7023 AWALTERS@PHILLIPSLYTLE.COM

ONE CANALSIDE 125 MAIN STREET BUFFALO, NY 14203-2887 PHONE 716 847 8400 FAX 716 852 6100

NEW YORK: ALBANY, BUFFALO, CHAUTAUQUA, GARDEN CITY, NEW YORK, ROCHESTER | WASHINGTON, DC | CANADA: WATERLOO REGION | PHILLIPSLYTLE.COM

review pursuant to the State Environmental Quality Review Act ("SEQRA"), which was completed in March of 2012. As part of this analysis, the STAMP Project Sponsor analyzed wetlands, threatened and endangered species, soil, stormwater management, traffic impacts, natural gas service, archaeological, economic, visual impacts, water and sewer feasibility studies and the existing ambient vibration levels, among other conditions.

As NYSDEC is aware, STAMP is designed specifically to attract the semiconductor and nanotechnology industry. Acceptable ambient acoustic and vibration levels at STAMP are crucial to end users, so crucial, that the STAMP Project Sponsor retained Colin Gordon Associates Inc., specialists in acoustic and vibration studies, to measure and compare the ambient conditions to typical requirements for semiconductor manufacturing facilities. Colin Gordon reported that the ambient vibration are well below the National Institute of Standards and Technology-A ("NIST-A") criteria, which makes the existing ambient conditions at STAMP ideal.

Frontier Stone is now seeking approvals to build its Proposed Project, a 215.5± acre dolomite/limestone quarry, near STAMP. The STAMP Project Sponsor reviewed the DEIS and submitted comments documenting concerns about the acoustic and vibration impacts created by the Proposed Project on the Town of Alabama, and, in particular, the STAMP Site.

The DEIS inadequately evaluated the potential for acoustic and vibration impacts and Vibra-Tech, Inc., on behalf of Frontier Stone, completed an acoustic and vibration study to supplement the Draft EIS and issued a report dated December 12, 2014 ("Vibra-Tech Report"). The Vibra-Tech Report finds that Frontier Stone's proposed blasting is not anticipated to impact STAMP tenants, provided certain blasting protocols are allowed.

On behalf of the STAMP Project Sponsor, Colin Gordon reviewed the Vibra-Tech Report and provided technical comments, which are attached as Exhibit A ("Colin Gordon Comments"). Colin Gordon generally concurs with the testing methodology used by Vibra-Tech. Consistent with Vibra-Tech's analysis, Colin Gordon recommends a permit condition that would limit the production shot to 20 kilograms of explosives

per deck/holes in a 14-hole blast, consisting of 101.6 millimeter diameter holes with 3 explosive decks/hole, with a 72ms delay, as described on page 47 of the Vibra-Tech Report. We respectfully request that NYSDEC include this condition within its SEQR findings and within any permit issued by NYSDEC to Frontier Stone.

The STAMP Project Sponsor is also requesting that the DEIS be updated to include the analysis of the acoustic and vibration impacts to the environment including the Town of Alabama and the STAMP Site. The STAMP Project Sponsor would also request a permit condition requiring Frontier Stone to reimburse the STAMP Project Sponsor for time that their consultants spend on reviewing any materials or test results.

The STAMP Project Sponsor is looking forward to receiving and reviewing a revised EIS for the Proposed Project and future findings that include the above-described mitigation measures and conditions, in particular permit conditions, which ensure that Frontier Stone's Proposed Project does not create vibration impacts in excess of the VC-E and NIST-A standards at STAMP, by limiting the blasting to the method described in the Vibra-Tech Report with a 72ms delay configuration.

Very truly yours,

Phillips Lytle LLP

By

Adam S. Walters

ASWsay
cc: Mark A. Masse GCEDC (by email)

Doc #01-2832484.1

MEMORANDUM BY EMAIL

TO: Mark Masse mmasse@gcedc.com

FROM: Blong Xiong blong.xiong@colingordon.com
Hal Amick, PhD, PE hal.amick@colingordon.com
(415) 570-0350

DATE: *January 21, 2015*

SUBJECT: Genesee County Economic Development Center – STAMP Mine Blasting Report Review, CGA Project No. 14051

This memorandum summarizes our review of the Vibra-Tech report titled: "Frontier Stone, LLC Project, Prediction of Blast Induced Vibration at Western New York Science and Technology Advanced Manufacturing Park ("STAMP"), Alabama, NY"; and dated December 12, 2014 ("Vibra-Tech Report"). The report discusses the methods and results of their assessment of the vibration impact to the STAMP site from underground blasting at a new planned quarry located 5 miles to the north.

Measurement Methodology

The following is a summary of the Vibra-Tech Report. It is our understanding that the overall premise of the test methodology was to generate a large test blast using 382.4 kg of explosives at the quarry location that would be measurable at various distances out to the STAMP site. A function comparing vibration amplitude versus distance can be formulated from this data set, which describes how the vibration attenuates with distance. Using the VC-E and NIST-A requirements at the STAMP site, one can scale down the test blast amplitude to the largest acceptable amplitude that can occur without exceeding the STAMP criteria. The test blast was not the equivalent of a production blast and was not intended outright to be representative of a production blast. It is our understanding that the goal of the test blast was rather to generate a large enough vibration amplitude that would achieve a good signal-to-noise ratio at the measurement response locations.

Forty-one (41) seismographs measuring peak particle velocity (PPV) were placed at various distances from the blast location. It is assumed that only vertical PPV were measured with these systems. The measurements are useful for comparing overall vibration amplitudes at various distances and were used primarily for the purpose of curve fitting in the regression analysis of vibration attenuation over distance.

Vibra-Tech reports placing two specialized measurement systems on the STAMP site near our previous measurement locations #4 and #7. These systems utilized highly sensitive seismic accelerometers capable of measuring down to the VC-E and NIST-A levels. Three sensors were positioned at each location to measure the vibration amplitudes in the vertical as well as

horizontal longitudinal and horizontal transverse directions. The vibration data collected here include the PPV response as well as the frequency spectrum (1/3 octave band format), the latter of which is consistent with the format of the generic vibration criteria (VC) curves.

Measurement Results and Regression Analysis

The time domain responses to the test blast at the STAMP site location #7 (the location closest to the quarry) for all three axes are presented on page 20 of the report. The largest PPV occurs in the horizontal longitudinal axis, which is the direction facing the blast (i.e. the direction of wave propagation). Pages 22, 23, and 24 show the 1/3 octave band spectra for these vibration responses. We assume that the "Max" curve is the peak hold spectrum of the time signal and will quantify the performance based on this worst case condition. We can see that in the vertical axis, the largest vibration peak occurs in the 4 Hz band where it essentially touches the VC-E limit. In the two horizontal axes, the maximum vibration amplitudes peak in the 6.3 and 8 Hz bands where they exceed VC-D. Thus, it was clear that the test blast created vibrations exceeding the VC-E and NIST-A criteria on the STAMP site.

The PPV amplitudes from the 41 seismographs are plotted on page 30 (of the Vibra-Tech report). Vibra-Tech used the PPV amplitudes in the regression analysis discussed in Section 7 (page 25) of the report to develop the best-fit "Equation 7-2" shown on page 26. This equation describes the relationship between explosive charge weight, and the resulting PPV at a specific distance from the blast location. The equation was further refined to reflect a 95% confidence level based on the scatter in the data. Additional considerations were made to account for confined vs unconfined (i.e. free face) conditions. This adjusted equation is shown in "Equation 7-3". The resulting curves for these equations are also shown on the figure on page 30.

Prediction of Ground Vibration with Production Blasts

Production blasts will be substantially different from the test blast. Rather than one single large blast, several smaller blasts will be carried out with a time delay to distribute the energy over a period of time and space. Selecting the right time delay can result in destructive interference of the blast waves where some of the waves cancel each other out. The production blast in this case consists of 14 holes with 3 explosive charges per hole. With a time delay between each deck, there would be a total of 42 separate explosions.

Simulations were carried out to evaluate three different time delays of 72ms, 50ms, and 25ms between each charge. The predicted time history response for each condition was synthesized by first scaling the test blast based on size and distance per the 95% confidence equation, and then adding up each individual blast with the respective time delay associated. The simulated time histories with the 72ms delay are shown on page 32 of the report. Note that the original test blast PPV in the longitudinal direction was 38.1 μm/s while the simulated production blast shows a PPV of 5.6 μm/s in this axis.

The synthesized time histories were then transformed into frequency domain so that they could be compared with the VC-E and NIST-A criteria. The predicted 1/3 octave band vibrations for the 72ms delay case are shown on pages 34 to 36. Again, we will use the "Max" spectrum as the

quantifier. As one can see, none of the predicted amplitudes (vertical and horizontal) exceed VC-E nor NIST- A. The 1/3 octave band spectra for the 50ms and 25ms cases are also provided in the report. The results with these delay times reveal higher vibration amplitudes, especially the 25ms case. This demonstrates that those delay times are too short for there to be any destructive interference between blasts.

Summary & Conclusions

The test methodology employed in this report was able to generate sufficient data such that a regression model could be developed to characterize the vibration attenuation from the quarry to the STAMP site. Using this regression model, simulations of production blasts with various time delays were evaluated. It was shown that only the 72ms delay configuration would produce vibration amplitudes at the STAMP site that do not exceed VC-E or NIST-A.

We expect that as long as the production blasts are carried out according to the method described in the report with a 72ms delay between charges, the vibration impact to the STAMP site would be allowable.

If highly-sensitive instrumentation is affected by vibrations in this range, local vibration isolation (at the receiver) is available, though care must be taken to obtain isolators that have adequately low resonance frequencies. (Isolation occurs at frequencies above 1.4 times the resonance frequency. At lower frequencies, there may be amplification.) Pneumatic isolation may be obtained with resonance frequencies between 1.25 and 3 Hz. Alternate isolation technologies — such as minusK, are available with frequencies as low as 0.5 Hz. Active vibration control systems ("active cancellation", similar to "noise cancellation" technology) can be problematic when used in an environment that is already very quiet (such as VC-E or NIST-A).

If the blasting is still a concern once there are operating manufacturing facilities on the STAMP site, we would request that Frontier Stone install vibration monitoring systems (temporarily) to monitor for any impact. Coordination with the quarry operators would also be highly beneficial as they may be able to schedule the blasting during non-critical hours, and we would suggest that the permitting agency impose these types of conditions. We would also ask Vibra-Tech to propose additional mitigation measures, which would further reduce potential impacts.

As described above, a condition on the permit, which limits the productions shot to the 14 hole configuration noted in the Frontier report utilizing a 72ms delay would significantly limit the potential impacts at STAMP. It is understood that once the quarry pit is developed and free faces become available, there should be less vibration generated from blasting as the charges are no longer fully confined. Adjustments to the delay time and charge size may be considered and according to the report, these would be validated based on ongoing seismic measurements. We suggest that any proposed changes to the blasting method should also be communicated to both NYSDEC and STAMP and that a permit modification be required.