



Frontier Stone Quarry
Draft Permit
April 28, 2016

PERMIT
Under the Environmental Conservation Law (ECL)

Permittee and Facility Information

Permit Issued To:
FRONTIER STONE LLC
4172 E LAKE RD
WILSON, NY 14172
(716) 434-1694

Facility:
FRONTIER STONE QUARRY
SOUR SPRING RD
SHELBY, NY

Facility Location: in SHELBY in ORLEANS COUNTY
Facility Principal Reference Point: NYTM-E: 226.5 NYTM-N: 4783.9
Latitude: 43°09'30.2" Longitude: 78°21'50.4"

Project Location: Sour Spring Road
Authorized Activity:

A Mined Land Reclamation permit to mine consolidated material from a 43.7 acre permit term area within a 215.5 acre Life of Mine. Approved operations include crushing and screening. Blasting is permitted in accordance with the approved plans, special conditions of this permit, and the attached blast level charts. See attached Figure B-1, Acceptable Blasting Levels, and Figure A.2, Generic Vibration Criterion.

A Water Withdrawal permit to authorize the withdrawal of up to 554,264 gallons per day (GPD) of water from on-site sumps and settling basins for quarry operations, including quarry dewatering and dust suppression in accordance with the terms and conditions of this permit.

Permit Authorizations

Mined Land Reclamation - Under Article 23, Title 27

Permit ID 8-3436-00033/00001 (Mined Land ID 80823)
New Permit Proposed Effective Date: _____ Proposed Expiration Date: 5 yrs from issuance

Water Withdrawal Non-public - Under Article 15, Title 15

Permit ID 8-3436-00033/00002 (WWA No. 11682)
New Permit Proposed Effective Date: _____ Proposed Expiration Date: 5 yrs from issuance

NYSDEC Approval

By acceptance of this permit, the permittee agrees that the permit is contingent upon strict compliance with the ECL, all applicable regulations, and all conditions included as part of this permit.

Permit Administrator: SCOTT SHEELEY, Regional Permit Administrator
Address: NYSDEC Region 8 Headquarters
6274 E Avon-Lima Rd
Avon, NY 14414

Authorized Signature: _____ Date ____/____/____

Distribution List

Steven Army, DEC Mineral Resources
Scott Rodabaugh, DEC Division of Water
Erik Schmitt, DEC Division of Water
Scott Jones, DEC Bureau of Habitat
Tom Roster, USFWS Iroquios National Wildlife Refuge
Supervisor, Town of Shelby - via certified mail
Mark Masse, Genesee County Economic Development Center

Permit Components

MINED LAND RECLAMATION PERMIT CONDITIONS
WATER WITHDRAWAL NON-PUBLIC PERMIT CONDITIONS
GENERAL CONDITIONS, APPLY TO ALL AUTHORIZED PERMITS
NOTIFICATION OF OTHER PERMITTEE OBLIGATIONS

Permit Attachments

Permit Sign
Blasting Chart - Ground Vibration Limits
Figure A.2 - Generic Vibration Criterion (NIST-A) Curve

MINED LAND RECLAMATION PERMIT CONDITIONS

1. Conformance With Plans All activities authorized by this permit must be in strict conformance with the approved plans submitted by the applicant or applicant's agent as part of the permit application. Such plans were approved by Steven M. Army, Mineral Resources on < DATE TO BE INSERTED > and consist of the following items:

- * Mining Permit Application dated February 7, 2014.
- * Organizational Report dated February 7, 2014.
- * Environmental Assessment Form dated February 7, 2014.
- * Draft Environmental Impact Statement for A Mined Land Use Plan Mining Permit Volume 1 last revised January 27, 2014, Volume 2 last revised October 15, 2013, Volume 3-7 dated January 29, 2014.
- * Response to Comments, dEIS Review and Comments dated September 11, 2012.
- * DEIS Information Request dated March 21, 2013.
- * Response to Comments dated September 24, 2013.
- * Vibra-tech Prediction of Blast Induced Ground Vibration Report dated December 12, 2014.
- * Vibra-Tech Response to Comments dated January 28, 2015.
- * Vibra-Tech Prediction of Ground Vibrations-Western New York Science and Technology Manufacturing Park dated July 14, 2015.
- * Frontier Stone Quarry Proposed Dewatering Route to Basin 2, dated November 11, 2015.

2. No Deviation From Approved Plan The permittee shall not deviate or depart from the approved mined land use plan without approval by the Department of an alteration or modification thereto.

3. Strip and Stockpile Soils for Reclamation Prior to the excavation of previously undisturbed areas, topsoil and overburden shall be stripped, stockpiled separately, and used for reclamation of mined areas. These stockpiles shall be seeded to establish a vegetative cover within 30 days, or as soon as practicable following their construction. The permittee shall locate all overburden stockpiles within the permitted area of the approved Life of Mine. Sufficient quantities of topsoil must be retained on the site for use in reclamation, unless prior approval is granted by the Department.

4. Replace Uppermost 6 inches of Soil A minimum of 6 inches of topsoil that originated from the uppermost 6 inches of soils (encountered within the life of mine area prior to stripping) shall be replaced on all affected lands that will remain above seasonal low water elevation of the reclaimed lake, including side slopes, at the time of reclamation.

5. Distance From Mine to Property Line No land within 25 feet of any property or right-of-way boundary may be affected by any mining related activity. When mining is conducted below the level of adjacent property, the horizontal distance from the toe of the mine face to the nearest property or right-of-way boundary must be no less than 25 feet plus 1.25 times the depth of excavation.

6. Dust Control Water or other approved dust palliatives must be applied to haulageways and other parts of the mine, as often as necessary, to prevent visible dust from leaving the mine property.

7. Post Sign and Permit The enclosed permit and permit sign must be conspicuously posted in a publicly accessible location at the project site. They must be visible, legible and protected from the elements at all times.

8. Maintain Area Markers for Permit Term The permittee shall provide permanent markers such as stakes, posts or other devices acceptable to the Department to identify and delineate the permit area, as outlined on the approved Mining Plan Map. These markers are to be installed prior to the start of mining and shall be maintained for the duration of the permit term.

9. Mine Hours of Operation Hours of Operation shall be limited to 6:00 AM to 6:00 PM, Monday through Friday, and 6:00 AM to 12:00 PM Saturday. There shall be no operations on Sundays or on New Year's Day, Memorial Day, July 4, Labor Day, Thanksgiving, or Christmas Day.

The permittee must provide written notification and receive written approval from the Department to operate the quarry outside the approved hours of operation.

10. Site Access and Traffic

Site access (ingress and egress) shall be provided directly via the northern Fletcher Chapel Road entrance shown on the Mining Plan Map with haul traffic traveling to and from NYS Route 63 using Fletcher Chapel Road. The Sour Springs Road entrance shown on the Mining Plan Map shall only be used for emergencies and incidental uses (e.g., site maintenance, monitoring, etc.), and shall not be used for haul traffic.

11. Residential Well Supply Agreement Without restricting the right of the Department to take any other alternative action it is authorized by law to take, if, after an initial assessment by the Department, it is suspected that mining operations have impacted the quantity or quality of groundwater at and in the vicinity of the mine site, the Department may direct the permittee to take any or all of the following steps to address the situation:

- a. The permittee must immediately supply water at its expense to the impacted property or properties, and must continue to supply water to the impacted property or properties unless and until the permittee can demonstrate to the satisfaction of the Department that the mining operation is not a contributing cause to the identified impacts. In the event that the impacted water supply is utilized as a drinking water source, potable water must be supplied.
- b. The permittee shall undertake tests or investigations as deemed necessary by the Department to aid in determining the cause of the identified impacts.
- c. If the Department concludes that the mining operation has negatively impacted groundwater at and in the vicinity of the mine site, the permittee must, at its expense, provide an alternate,

permanent source of water to the impacted property or properties. In the event that the impacted water supply is utilized as a drinking water source, the permittee must connect any impacted property or properties to a municipal water supply system, if available, or, if a municipal water supply system is unavailable to the impacted property or properties, a permanent potable water source must be supplied.

12. Groundwater Quantity Monitoring The permittee shall conduct groundwater quantity monitoring in accordance with the monitoring plan contained in Volume 4, Appendix 4 of the January 19, 2014 Draft Environmental Impact Statement at the following well locations: PW-1, DH1-05, DH4-05, barn well, garage well, and the four sets of new monitoring wells at the locations shown on the Mining Plan Map. The four sets of new monitoring wells must be installed, and at a minimum, baseline water elevation data must be collected prior to the initiation of mining.

Groundwater monitoring shall consist of measuring water levels monthly during the first two years of mining and then quarterly thereafter. Annual reports summarizing groundwater data will be submitted to the Department for the first five years of mining and then once every permit term prior to the expiration of the permit, for the life of the project. The permittee will maintain a database of quarterly measurements throughout the life of the mine.

13. No Unpermitted Discharge Outside Limits of Mine There shall be no natural swales or channels or constructed features such as ditches, pipes, etc., that are capable of discharging waters to any offsite areas or to any areas outside the limits of the Life of Mine except those explicitly described and shown in the narrative and graphic portions of the approved Mined Land Use Plan. All silt laden water and storm water generated on, or running across, the site shall be retained within the approved project area. The permittee must comply with all applicable State Pollutant Discharge Elimination System (SPDES) permit requirements and provide necessary notifications for off-site point source discharges.

14. Alternative Mine Dewatering Discharge Location Upon written request by the United States Fish and Wildlife Service (USFWS), the Permittee shall use the alternative mine dewatering route identified as "drainage basin 2" in the letter dated November 11, 2015 from John Hellert to Scott Sheeley. Use of the alternative discharge location shall:

- a. Occur for the full period specified by the USFWS request,
- b. Be the minimum seasonally necessary to achieve proper mine dewatering, but at no time exceed a rate of 554,264 gallons per day, and
- c. Meet all effluent limits and requirements of the Permittee's coverage under the State Pollutant Discharge Elimination System (SPDES) Multi-Sector General Permit for Stormwater Discharges Associated with Industrial Activity (GP-0-12-001)

15. Pre-Blast Survey

Prior to engaging in blasting, the permittee shall conduct a pre-blast survey for residential and commercial structures, not owned or leased by the permittee, that are within 1500 feet from the final Life of Mine boundary.

Landowners within 1,500 feet of the Life of Mine boundary shall be notified in writing that they have the right to have a qualified third-party conduct a pre-blast survey prior to any blasting taking place at the quarry. This letter shall describe the procedure for making a pre-blast survey request to the company.

The survey shall document the condition of the dwelling or structure and catalogue preblasting damage and other factors that could reasonably be affected by blasting at the mine site. Assessment of appurtenances, such as pipes, cables, transmission lines and water well systems, shall be limited to surface condition and readily available data.

Copies of the completed pre-blast survey reports will be provided to the person requesting the survey, and to the Department. Survey reports and documentation of all contacted parties (including those that refused pre-blast surveys) shall be maintained by the Department.

16. Licensed Blaster Required All blasting shall be undertaken by a blaster licensed by the New York State Department of Labor and monitored with a properly calibrated seismograph. The permittee shall maintain copies of all blasting records. Such records shall be made available to the department upon request.

17. Blasting Hours Blasting shall be conducted between the hours of 9:00 a.m. to 4:00 p.m. Exceptions to this will require prior written notification by the permittee and prior written approval from the Department. No blasting will occur on weekends or legal holidays.

18. Seismograph Monitoring All blasts shall be monitored with a properly calibrated seismograph. Seismographs shall be installed at the nearest residential receptor, and any locations identified within the approved Mined Land Use Plan or locations determined by the Department. In addition, the permittee shall establish a permanent seismic accelerometer monitoring station at the Western, New York Science, Technology, and Advance Manufacturing Park located on Route 63/77 in the Town of Alabama, NY (“STAMP Site”). This station shall be located in the northwest corner of the STAMP Site in order to monitor vibrations from blasting.

Both standard seismograph, and seismic accelerometer monitoring shall continue as long as the permit is in place, and all blast records shall be maintained throughout the life of the project, and shall be provided to the Department upon request.

19. Seismograph, Seismic Accelerometer, and Shot Reports All seismograph, seismic accelerometer records, and shot reports, shall be submitted to the Department within 72 hours of each blasting event for the term of this permit.

20. Ground Vibration Limits

a. Ground vibration shall not exceed the limits as per the attached ground vibration limits graph from the U.S. Bureau of Mines Report of Investigation 8507 (Figure B-1, Safe levels of blasting vibration for houses using a combination of velocity and displacement). Maximum peak particle velocity shall not exceed these limits at the location of any dwelling, public building, school, church, or community or institutional building outside the permit area.

b. From the date of issuance of this mining permit, ground vibrations at the STAMP Site from blasting shall not exceed the VC-E vibration criteria, defined as the rms vibration velocity limit of 3.1 $\mu\text{m/s}$ (125 $\mu\text{in/s}$) in the 1/3 octave bands from 1 to 80 Hz*, in the interior of such building(s), detailed in the document “Evolving criteria for research facilities: I - Vibration,” and shall be consistent with the

findings and recommendations detailed in the Vibra-Tech report dated July 14, 2015, contained in the document list of this permit.

*Note that NIST-A is identical to VC-E at frequencies above 20 Hz, but maintains a constant rms displacement amplitude at lower frequencies. See Figure A.2, Generic Vibration Criterion (NIST-A) Curve for Critical Areas in Nanotechnology Facilities.

c. In the event that a tenant commits to establish either semiconductor or nanotechnology based or similar research, development and/or manufacturing institutional buildings at the STAMP Site, the permittee must submit an approvable production blast analysis (PBA) and proposed production blast condition (PBC) within 6 months of permittee obtaining actual notice of the signing of such a deal. The PBA must at a minimum include:

- i. If the application(s) is for nanotechnology based research, development and/or manufacturing institutional building(s), the PBA shall establish a PBC to limit ground vibration from the production blast so as not to exceed NIST-A vibration criteria, defined as the rms vibration velocity limit of 3.1 micro-m/s in the 1/3 octave bands from 20 to 80 Hz, with a constant rms displacement amplitude at frequencies below 20 Hz, as detailed in Figure A.2 and the Vibra-Tech report dated July 14, 2015, contained in the document list of this permit, and the document "Evolving criteria for research facilities: I - Vibration." in the interior of such building(s). This limitation may be specific to STAMP Site building locations.
- ii. The PBA must include analysis of procedures to be included in the PBC to confirm compliance with the PBC.
- iii. This will be considered to be a modification to this permit, and a new condition will be added to reflect these requirements.

21. Air Blast Limits Air blast shall not exceed 133 dB at the location of any dwelling, public building, school, church, or community or institutional building outside the permit area.

22. No Flyrock Beyond the Property Line There shall be no flyrock beyond the property line including flyrock that travels in the air or along the ground. In the event of flyrock beyond the property line, all blasting shall cease immediately and the flyrock incident shall be reported within 24 hours to the Regional Mined Land Reclamation Specialist. Blasting shall not resume until written approval to resume blasting is obtained from the Department.

23. Prevent Injury Blasting shall be conducted in a manner to prevent injury to persons and damage to public or private property outside the permit area.

24. Storage of Explosives Storage of explosives on site shall conform to State of New York, Department of Labor Industrial Code Rule 39, found at 12 NYCRR 39:

Part 39.6 General Provisions for the Storage and Handling of Explosives

Part 39.8 Construction and Maintenance of Magazines

Part 39.9 Location of Magazines

25. Bond, Surety to Remain in Force Any required reclamation bond or other surety, in an amount determined by the Department, shall be maintained in full force and effect. Such a bond or other surety shall not be terminated until the reclamation of the mined area is approved by the department in writing.

26. Permit Does Not Apply to Structures and Safety Aspects Unless expressly provided for, the issuance of this permit does not apply to any structures contained on the plans or in the specifications, nor does this permit apply to safety aspects of the operation and/or reclamation plan.

27. Fueling of Equipment and Reporting of Spills Fueling of equipment shall be controlled to prevent spillage. Any spillage of fuels, waste oils, other petroleum products or hazardous materials shall be reported to the Department's Spill Hotline number (1-800-457-7362) within 2 hours. The permittee shall retain the Department's Spill Response number for immediate access in the permittee's office and at the mine site.

28. Phase 2 and 3 Archeological Study No mining activities will take place within Phases 2 and 3 of the mine until the required archeological survey work is completed, reports are written, and written approvals are granted by the Department and the New York State Office of Parks, Recreation and Historic Preservation. Any archaeological reports provided for review shall be provided to the Department and New York State Office of Parks, Recreation and Historic Preservation a minimum of one year before any proposed dates to commence mining in Phases 2 and 3.

29. Human or Archaeological Remains If any human remains or archaeological remains are encountered during excavation, the permittee must immediately cease, or cause to cease, all work in the area of the remains and notify

Regional Permit Administrator
NYSDEC Region 8 Headquarters
6274 E Avon-Lima Rd
Avon, NY14414

Work shall not resume until written permission to do so has been received from the Department.

30. File Termination Notice If the permittee decides to discontinue operation, a termination notice must be filed 60 days prior to the scheduled temporary or permanent cessation of mining.

31. Phase 2 Seasonal Setback There shall be no mining activities conducted within the Phase 2 mining area within 350 feet of the southern excavation area limit shown on the Mining Plan Map during the months of May, June and July. Prohibited mining activities shall include, but not be limited to, stripping stockpiling, drilling, blasting, loading, and hauling. Operation of pump(s) within the sump area is authorized any time of year.

WATER WITHDRAWAL NON-PUBLIC PERMIT CONDITIONS

- 1. Approval of Completed Works from NYS P.E.** Any new works constructed or modified pursuant to this water withdrawal permit shall be constructed under the general supervision of a person licensed to practice engineering in this state (professional engineer). Upon completion of construction and pre-operational testing, such works may not commence final operation until the professional engineer first certifies in writing to the Department that the works have been constructed in accordance with the issued permit.
- 2. Permit Expiration and Renewal** Any permittee who intends to continue to operate a water withdrawal system beyond the period of time covered in the applicable water withdrawal permit must apply for a renewal of the permit at least 30 days prior to its expiration.
- 3. Transfer of Ownership of Water Withdrawal Systems** Unless otherwise specified in this permit, a new water withdrawal permit application is required for the acquisition or condemnation of the approved water withdrawal system.
- 4. Water Withdrawal Limit** The withdrawal of more than 554,264 gallons of water per day for any uses on the site is prohibited. Such uses shall include, but are not limited to, mine dewatering and dust suppression.
- 5. Meter All Sources** The permittee must install and maintain meters or other appropriate measuring devices on all sources of supply used in the system. Source master meters or measuring devices are to be read, and records kept of those readings, on at least a weekly basis. The permittee must maintain records of water withdrawn and consumptive use for each calendar year.
- 6. Source Meter Calibration** All source meters or measuring devices shall be calibrated for accuracy at least once each year.
- 7. Permittee Must Maintain Records** The permittee must retain records of production and consumption, reports of audit results, and summaries of leaks detected and repaired for at least ten years. The permittee must provide copies of such of these records, reports, and summaries as might be requested in writing by the Department within one month of receiving such a request.
- 8. Annual Water Withdrawal Reports** The permittee must submit a Water Withdrawal Reporting Form to the Department's Division of Water, Albany, NY. by March 31st of each year. The form is available on the Department's website and includes information regarding approved sources of water supply, source capacities, average and maximum day water use data and water conservation and efficiencies employed during the past calendar year.
- 9. Diminished Private Drinking Water Wells** The permittee shall make provisions to provide an adequate supply of water to those residents whose private drinking water wells are significantly diminished or rendered non-productive by the permittee's use of the sources of water supply approved by this permit.

GENERAL CONDITIONS - Apply to ALL Authorized Permits:

1. Facility Inspection by The Department The permitted site or facility, including relevant records, is subject to inspection at reasonable hours and intervals by an authorized representative of the Department of Environmental Conservation (the Department) to determine whether the permittee is complying with this permit and the ECL. Such representative may order the work suspended pursuant to ECL 71- 0301 and SAPA 401(3).

The permittee shall provide a person to accompany the Department's representative during an inspection to the permit area when requested by the Department.

A copy of this permit, including all referenced maps, drawings and special conditions, must be available for inspection by the Department at all times at the project site or facility. Failure to produce a copy of the permit upon request by a Department representative is a violation of this permit.

2. Relationship of this Permit to Other Department Orders and Determinations Unless expressly provided for by the Department, issuance of this permit does not modify, supersede or rescind any order or determination previously issued by the Department or any of the terms, conditions or requirements contained in such order or determination.

3. Applications For Permit Renewals, Modifications or Transfers The permittee must submit a separate written application to the Department for permit renewal, modification or transfer of this permit. Such application must include any forms or supplemental information the Department requires. Any renewal, modification or transfer granted by the Department must be in writing. Submission of applications for permit renewal, modification or transfer are to be submitted to:

Regional Permit Administrator
NYSDEC Region 8 Headquarters
6274 E Avon-Lima Rd
Avon, NY14414

4. Submission of Renewal Application The permittee must submit a renewal application at least 30 days before permit expiration for the following permit authorizations: Mined Land Reclamation.

5. Permit Modifications, Suspensions and Revocations by the Department The Department reserves the right to exercise all available authority to modify, suspend or revoke this permit. The grounds for modification, suspension or revocation include:

- a. materially false or inaccurate statements in the permit application or supporting papers;
- b. failure by the permittee to comply with any terms or conditions of the permit;
- c. exceeding the scope of the project as described in the permit application;
- d. newly discovered material information or a material change in environmental conditions, relevant technology or applicable law or regulations since the issuance of the existing permit;

- e. noncompliance with previously issued permit conditions, orders of the commissioner, any provisions of the Environmental Conservation Law or regulations of the Department related to the permitted activity.

6. Permit Transfer Permits are transferrable unless specifically prohibited by statute, regulation or another permit condition. Applications for permit transfer should be submitted prior to actual transfer of ownership.

NOTIFICATION OF OTHER PERMITTEE OBLIGATIONS

Item A: Permittee Accepts Legal Responsibility and Agrees to Indemnification

The permittee, excepting state or federal agencies, expressly agrees to indemnify and hold harmless the Department of Environmental Conservation of the State of New York, its representatives, employees, and agents ("DEC") for all claims, suits, actions, and damages, to the extent attributable to the permittee's acts or omissions in connection with the permittee's undertaking of activities in connection with, or operation and maintenance of, the facility or facilities authorized by the permit whether in compliance or not in compliance with the terms and conditions of the permit. This indemnification does not extend to any claims, suits, actions, or damages to the extent attributable to DEC's own negligent or intentional acts or omissions, or to any claims, suits, or actions naming the DEC and arising under Article 78 of the New York Civil Practice Laws and Rules or any citizen suit or civil rights provision under federal or state laws.

Item B: Permittee's Contractors to Comply with Permit

The permittee is responsible for informing its independent contractors, employees, agents and assigns of their responsibility to comply with this permit, including all special conditions while acting as the permittee's agent with respect to the permitted activities, and such persons shall be subject to the same sanctions for violations of the Environmental Conservation Law as those prescribed for the permittee.

Item C: Permittee Responsible for Obtaining Other Required Permits

The permittee is responsible for obtaining any other permits, approvals, lands, easements and rights-of-way that may be required to carry out the activities that are authorized by this permit.

Item D: No Right to Trespass or Interfere with Riparian Rights

This permit does not convey to the permittee any right to trespass upon the lands or interfere with the riparian rights of others in order to perform the permitted work nor does it authorize the impairment of any rights, title, or interest in real or personal property held or vested in a person not a party to the permit.

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Figure B-1 Acceptable Blasting Levels

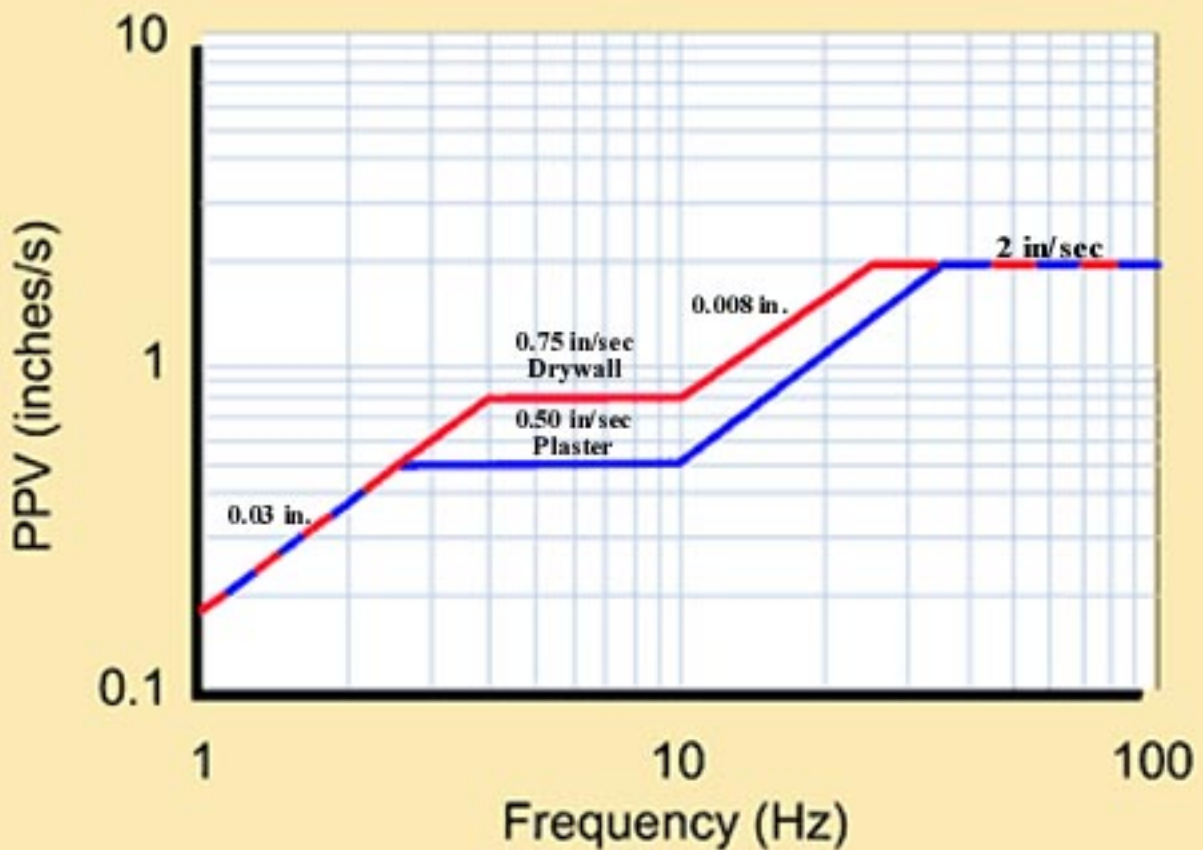
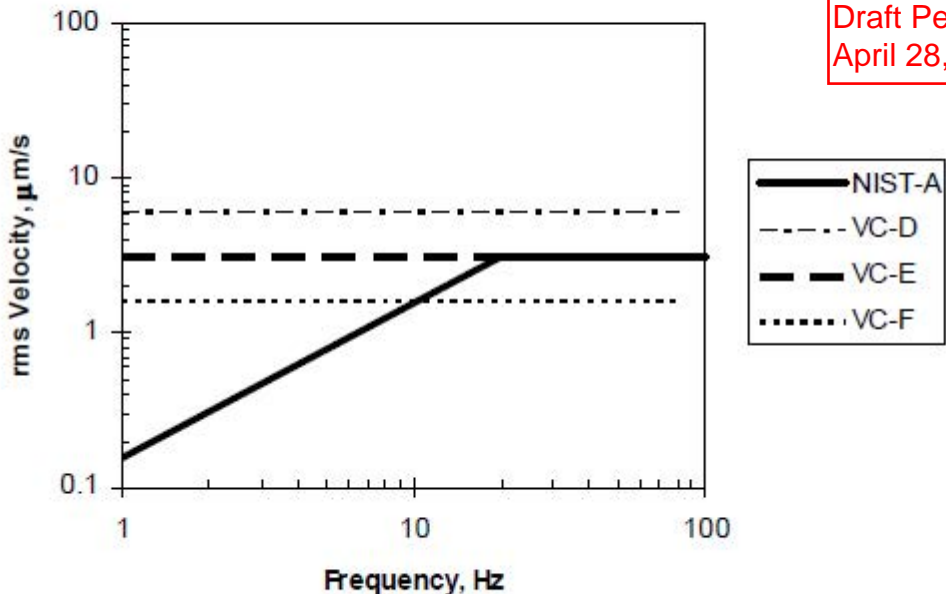


Figure A.2. Generic Vibration Criterion (NIST-A) Curve for critical areas
In nanotechnology facilities - Showing also several of the VC criteria for reference

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Note: The VC-F criterion is not applicable to the Frontier Stone Quarry (DEC Permit No. 8-3436-00033/00001)