



To whom it may concern:

The Kenai Peninsula Aggregate and Contractors Association does not support ordinance 2022-36. We feel that it is flawed in many ways, and in some respects, impossible to follow.

Below is a detailed list of our grievances with this document and reasons why. This includes, but is not limited to our concerns at this time. Our members are still digesting all applied situations applicable.

21.29.010 (c) This regulation gives us no access to any waterbody. It has been common in sites and mining to access non fish bearing streams and creeks within the state and even sometimes divert them for access to a commodity such as gravel or precious metals.

21.29.015 (a) This regulation went from 10ft to 32ft. 32ft buffer on a parcel less than 1 acre does not leave enough land to produce much at all. It would be extremely hard to operate in that space. Renders the exception almost useless.

(c) This regulation imposes current reclamation plans and buffers to PEU sites. While some consideration may be achieved on reclamation plans, the buffers of 32ft are likely impossible to achieve and considerably over-reaching. These PEU sites have been active or existing for sometimes longer than the KPB itself and have buffers less than 32ft. The material needed to comply may not be available and the work and cost associated to place 32ft of earth is enormous. Also, it is unbecoming of the KPB to change the deal struck years ago with the site operator or their successors.

21.29.020 (a) This regulation enlarged total acres from 2.5 to 10 acres, raised the floor 2 more feet, yet prohibits processing, screening, and crushing. This renders the permit useless as by definition, processing is what we do. 95% of our members or site operators screen material. Most have a small plant that makes very little dust or noise. Almost no complaints have been filed from this activity. Most small operations produce less than 750cu yds of material per day. The loss of 2 ft of material from the water table is unsubstantiated, and unnecessary. Not only does it create a loss of opportunity to the operator, but it takes a valuable commodity out of circulation and decreases the life of a site. This will only cause more contention with the public as more CLUP's will need to be applied for more frequently and in more areas. We feel this is going the wrong direction and we should be allowed to dig in the water table a minimum distance with standard conditions to extend the life of sites. Only if a major dig beyond the minimum distance, would a water table permit be needed.

(b) (1) Same grievance and reasoning as above.

(b) (2) Processing CLUP. This should not apply to small operations.

21.29.030 (a)(7)(e) This regulation sort of sheds the government's responsibility to construct and maintain standard roads and puts that responsibility on the site operator. All roads in the KPB should be up to KPB or State of AK standard. We pay taxes too.

(8)(b) This regulation demands we dig test holes 4 ft below proposed elevation. Some areas have deposits of gravel or peat that are deeper than common equipment can dig. It will commonly be an impossible or unnecessary task.

(9)(b) This regulation suggests the planning director may provide additional information. This information should be specifically specified as we may not always have a director that is as knowledgeable as our current director, as written, this promotes possible conflict of process.

21.29.040 (a) You have all heard my testimony on the lawfulness of viewshed rights and the few ways they are regulated or transferred. "Street-level visual screening" is just as unlawful as before, just a different angle of repose. There is no need for this language in the code, as if the operator is complying with the buffers, they will absolutely, inadvertently, achieve the screening.

21.29.050 (a)(1)(a) This regulation imposes 32ft buffer. We proposed a larger berm, and thus a buffer, but with access granted in the water table to offset the loss. One requirement without the other allowance is again, costing the operator, removing a valuable commodity from circulation with the public, and promoting more contention with the public as the frequency of new sites will surely increase because the need is naturally going to increase. The Street-level visual screening is the same as previously explained. The use of Undisturbed natural vegetation is unlawful. Please research Tigard v. Dolyn. Without giving the operator a alternative use for the property, it is a takings without just compensation.

(a)(1)(b) This regulation allows for the use of, and replacement of, the buffer slopes. We accept the idea, but 30 days is too short a time frame as material to replace the excavation may need to be hauled in as waste material from construction projects. 90 days is more suitable. Onsite material will surely be needed for reclamation since there is no provision in this document for the average pit to dig shallow ponds, thus shrinking the total area needed to reclaim.

(a)(2) This regulation prohibits use of any on site water. How are we to do any dust suppression? How do we make septic rock with a wash plant? Calcium chloride uses water to apply it as well. Traditionally we have used ponds in our sites to fill water trucks to suppress dust, run a wash plant, or obtain compaction on job sites. Without this availability, we would need outside sources, and truck it in. this goes against the intent of protecting the public safety, health, and welfare, by imposing unnecessary truck traffic. Also, the availability of outside sources is extremely small, as we can not pump out of any fish bearing source, and would not want to as responsible operators. A small pond or minimum dig in the water table should be allowed with every CLUP. Major or deep digs should be looked at with a separate permit and requirements. A minimum amount of dewatering should be allowed with each CLUP. 75,000 gallons per day should suffice. A water truck is 4,000 gal. We have been operating at this level on the KPB for 50 plus years and have no record of incident. The bonding of wells should only apply if the well is close horizontally or vertically to proposed excavation. If the dig is 15ft and the nearest well is 80ft....they are in two different aquifer formations and not connected. No need to burden the operator as we have no record of wells being damaged by a material site.

(a)(4) As explained before, this goes against the intent of this ordinance without access to a water source. May in some areas be an impossible task, as we will not be able to haul water fast enough to keep up.

(a)(6) How are we to install a monitor well if we are not allowed to excavate within 4ft of the water table? Even a drill excavates material by definition.

(a)(7) When will the setback not overlap? So this is really 282ft. Also, child care facility needs to be licensed.

(a)(9) As explained before, a permit without processing is useless. We process material by definition. We would simply be not able to operate.

(b)(1)(a),(i) Giving the planning commission discretion to 100ft eliminates any standard. How are we to speculate a suitable site if we do not have a standard that wont more than triple? Plannings discretion should not be over 300% of the standard. It should be less than 50%. "an eight-foot-high berm above the preexisting elevation may be constructed" may needs to be changed to must.

(b)(2) Roads should be kept to standard by the government. Maintenance is included in the gov. responsibility's. If we damage a road, its on the operator to repair it. Government should not shed it's responsibility. We pay taxes too.

(b)(3) ingress and egress. There is no need for this regulation. No one knows the best choice for placement than the operator. This is sort of a double regulation as we are already regulated to conform to all applicable agencies.

(b)(4) This regulation imposes operators to operate outside their ownership. Some operators don't have equipment designed for work outside the site boundary. Certain accesses may have restrictions or other permits required for activity within their ownership. A site operator can not control outside influences.

(b)(6) As stated before, any visual language should be struck from any ordinance. Viewshed rights don't allow for it.

21.29.055(b)(1) Processing hours have been limited from 6am-10pm to 8am-7pm. This is commonly not enough time to get the necessary projects done in the construction season. 7am-7pm is more appropriate as discussed with our members.

21.29.057 This regulation does not allow for any dewatering. As stated before, we need the tools to do the job. A minimum dig for a water source should be allowed with a maximum dewatering of 75,000gal. in all permits to comply with dust mitigation, wash plants for septic rock and other uses, and to be in harmony with the intent of this ordinance and not create unnecessary truck traffic.

21.29.060 There is no consideration here for post mining uses. We should be promoting post mining uses.

21.29.070 This regulation says if you meet all requirements, the planning commission MUST renew permit...but then says they may impose additional requirements and therefore, would deny the permit, in essence, if the operator did not agree with the new requirements. Government should not make a deal and then change the goal posts! Very unbecoming of the KPB to do so.

21.29.115 This regulation is probably the most egregious. Many PEU's were here before the KPB was. Many came from homesteads. Many have been passed down as a last wish of a generation to ensure the next had a form of value. Also, many sites, PEU and CLUP, have been operated for years, with the sweat equity of the operator, with the intention of someday selling the operation and retiring. This regulation almost guarantees that the value is lost. The site would immediately turn from an asset to a liability as the loss of the PEU or CLUP would initiate immediate reclamation, whether the commodity was exhausted or not. It would go against the Alaska constitution to use our resources to the fullest extent. The reality is that almost surely, the site was there before any surrounding residents were and if the site was forced to reapply for a permit, the half mile radius of opinions would not be in favor. Very unbecoming of the KPB to suggest this.

21.29.120(b) There needs to be clarification and standards in which the director would make a decision to approve or deny. We reserve our grievance on this portion of code until more information is provided.

(c) This regulation is the second most concerning. 365 days is not near enough time. This code also goes against the intent of this ordinance as it, like the lack of water, will create unnecessary truck traffic, dust,

noise, and general activity. Many larger sites sit dormant for very good reasons. Many are reserved quantities of resources for major state projects. Not unlike the four-lane connection between Soldotna and Sterling. It is finally scheduled and there's a few sites that have been waiting years for it to happen. It is not uncommon for an operator to get sick or hurt for a year and skip a construction season. The residents around some of the sites that have been dormant have enjoyed a reprieve from any activity. This regulation would end that enjoyment, and guarantee activity every year. Also, this is another case that the government is changing the deal struck with operators years ago. A longer time frame may be manageable. Our members have discussed 10 years.

(f) As these are old sites, and deals were struck years ago, it will almost surely be hard or impossible for these sites to conform to the new reclamation requirements. The material may not be there to do so. If ponding or post mining uses aren't allowed, it will make it even harder to accomplish. Also, the hours of operation and reclamation plan requirements is again, the government moving the goal posts. Unbecoming.

(h) This needs to be clarified as "permitted excavation" it reads as a cease and desist order as written.

Thank you for your consideration,

Ed Martin III, President, KPACA.

**From:** [Blankenship, Johni](#)  
**To:** [Warner, Avery](#)  
**Cc:** [Turner, Michele](#)  
**Subject:** FW: <EXTERNAL-SENDER>Fwd: Proposed KPB ordinance 2022-36 regarding CLUPs and MSPs  
**Date:** Tuesday, August 23, 2022 6:08:09 PM

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**From:** Katharine M. Tongue <[kmtongue@icloud.com](mailto:kmtongue@icloud.com)>  
**Sent:** Tuesday, August 23, 2022 5:51 PM  
**To:** Blankenship, Johni <[JBlankenship@kpb.us](mailto:JBlankenship@kpb.us)>  
**Subject:** <EXTERNAL-SENDER>Fwd: Proposed KPB ordinance 2022-36 regarding CLUPs and MSPs

CAUTION:This email originated from outside of the KPB system. Please use caution when responding or providing information. Do not click on links or open attachments unless you recognize the sender, know the content is safe and were expecting the communication.

Hi, Johni. I sent this to Mr. Johnson and Mr. Chesley on the 12th. Didn't hear anything back - of course they're super busy - but realized I should've cc'd you. Thanks very much. Enjoy the meeting.  
Katie

Begin forwarded message:

**From:** Katharine Tongue <[kmtongue@icloud.com](mailto:kmtongue@icloud.com)>  
**Date:** August 12, 2022 at 12:20:13 PM AKDT  
**To:** [bjohnson@kpb.us](mailto:bjohnson@kpb.us), [lchesley@kpb.us](mailto:lchesley@kpb.us)  
**Cc:** John & Katie <[jbandkt@gmail.com](mailto:jbandkt@gmail.com)>  
**Subject:** **Proposed KPB ordinance 2022-36 regarding CLUPs and MSPs**

Dear Mr. Johnson and Mr. Chesley,

I'm writing with regard to proposed KPB ordinance **2022-36** regarding CLUPs and MSPs.

We are a small Kasilof operation, extracting our material in stages, over the long term, conscious of the wildlife, scenery, and reasonable use of all materials involved. We engage with our neighbors in the years we operate the pit and have very good relationships. While we have sold to large highway projects in the past, we prefer to limit our sales to individual contractors and neighbors.

I'm still working my way through your document, but 3 concerns are immediately apparent:

Under 21.29.120. *Prior-existing uses*, Clause D, *Expansion Prohibited* of your proposed ordinance, it sounds like you are asking that we clarify our footprint prior to October 1st in order to protect our PEU status. Do you mean that our entire PEU property must be cleared of trees? of topsoil? While beetle kill will soon render that suggestion somewhat less ridiculous, stripping our property in order to preserve our pre-existing right to extract our material strikes me as completely contrary to the goals of this amendment process. What is wrong with using current mapped parcel parameters? We can bulldoze our property/forrest but that seems counter to good sense. I think you are trying to prevent adjacent property purchasers from being offended after they did not look at a map when they purchased their land. That seems to be coddling at our expense (as well as current neighbors' when we are forced to clear a current visual and auditory barrier). Give thought to how you can achieve your goals without causing more neighborhood problems - as this directive will. We will be obliged to clear right to property lines which we have avoided thus far.

My second objection regards Clause C, *Discontinuance*. Again, given our historic and long term plan for extraction of material, there have been and may be years where there is no extraction. Why is that a problem? If you are looking to prevent operators from reopening old pits, consider a 3-5 or 10 year 'fallow' rule as opposed to one. One year is too draconian.

Third, regarding A. *Determination* and B. *Decision*, we went through this to comply with 21.29.120. (Prior existing uses. B. Owners of sites must have applied to be registered as a prior existing use prior to January 1, 2001.) Why do you need to impose this burden again? If it is intended to weed out the pits whose owners are no longer engaged, then please make the application process simple for those of us you are imposing this burden upon.

Thank you for your consideration.

Katie Tongue.  
Owner, JBKT, LLC



**DATE:** August 30, 2022

**TO:** KPB Assembly

**SUBJECT:** Ordinance 2022-36 Amending 21.25 & 21.29  
Regarding CLUP & Material Site Permits

**RE:** Technical Recommendations

The proposed ordinance does a good job in laying out and addressing different aspects material site permitting and the areas that need improvement regarding material site permitting and management.

After initial review of the proposed ordinance, there are two sections that I am submitting written comment on currently.

**21.29.030.A.7 & 21.29.030.A.8**

The Application Procedure section designates which parts of site map and site plan should be prepared by a professional surveyor versus a professional engineer. As written, these sections do not properly differentiate responsibilities of the two disciplines. Recommended amendments are as follows:

Part 7 Subsection a. Separated into both professional qualifications as follows: areas of existing excavation should be shown on Surveyor's map & areas of proposed excavation & reclamation should be part of Part 8 Engineering.

Part 7 Subsection b. Proposed buffers should be included in Part 8 Engineering.

Part 7 Subsection d. Separated into both professional qualifications as follows: areas of existing ingress/egress should be shown on Surveyor's map & areas of proposed ingress/egress should be part of Part 8 Engineering.

Part 7 Subsection e. Anticipated haul routes should be included in Part 8 Engineering.

Part 7 Subsection f. Should be separated into both professional qualifications as follows: areas of existing processing should be shown on Surveyor's map & areas of proposed processing should be part of Part 8 Engineering.

Part 8 Subsection b. Locations of test holes and depth to groundwater should be included in Part 7 Surveying.

Part 8 Subsection c. Locations of private wells of adjacent property owners should be included in Part 7 Surveying.

Part 8 Subsection d. Locations of any waterbody on the parcel should be included in Part 7 Surveying.



Basically, any existing conditions should be included Part 7 Surveying and planning related items should be included in Part 8 Engineering.

**21.29.055 Earth Material Processing**

The Borough needs to add in a reference to blasting. While blasting to mine or process material isn't very common in the Borough there are areas of the borough where hard-rock mining is taking place and should be covered in permitting. Blasting will also become more prevalent in the Borough as the high-quality riverbed deposited gravels are exhausted.

Please feel free to contact me if you have any questions or comments.

Sincerely,

A handwritten signature in black ink that reads "Gina DeBardelaben".

Gina DeBardelaben, P.E.  
Vice President



**From:** [Blankenship, Johni](#)  
**To:** [Warner, Avery](#)  
**Subject:** FW: <EXTERNAL-SENDER>Material site 2022-36  
**Date:** Thursday, September 1, 2022 1:25:43 PM

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## Laydown public comment

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**From:** Greg Turner <prudhoedude@gmail.com>  
**Sent:** Thursday, September 1, 2022 1:25 PM  
**To:** G\_Notify\_AssemblyClerk <G\_Notify\_AssemblyClerk@kpb.us>  
**Subject:** <EXTERNAL-SENDER>Material site 2022-36

CAUTION:This email originated from outside of the KPB system. Please use caution when responding or providing information. Do not click on links or open attachments unless you recognize the sender, know the content is safe and were expecting the communication.

Unregulated or grandfathered Material Sites and Gravel Pits have a long history of causing harm and pollution in KPB.

We taxpayers need to be protected with regulations and control to work permits and monitoring. Helping to prevent on going problems and issues created by these uncontrolled sites doing what is now illegal in controlled sites. Some examples in my area Kobuk between Spruce and Big Eddy are mining gravel below the aquifer level. Not having proper site slopes adjacent to roads, and high pressure gas transmission lines. Dumping on site of organic or nor organic material. Non functioning Junk heavy equipment and big trucks, pickups and other items, Atco trailers, RV's equipment shops and buildings. These new regulations can help prevent problems.

Recent 8/23/22 unpermitted water release by Glen Martin's Gravel Pit doing business as Northern Enterprises from three large ponds, created by digging 30' below the waters surface that is the exposed aquifer level. This is the natural aquifer level in the area 35-40 ft below Kobuk Rd between Spruce and Big Eddy Road. The surface of those ponds are 12'-15' above Greenridge St, my neighborhood and they are 25-30 feet deep. The released water flowed through Doug Norris's Gravel Pit off of Joplin Ct and Greenridge St covering Greenridge St.

In the past Glen Martin has breached the artisan aquifer twice that we know of in the last seven years. Once resulting in flooding of Greenridge St neighborhood and home crawl spaces yards similar to what we are experiencing now.

If you dig deeply 30' below the natural aquifer level to extract gravel to sell you end up with big deep ponds that are always going to be there. Open exposed deep water ponds are dangerous to humans and animals. Creating hazards for money that could possibly cause harm to citizens from flooding or drowning or impact water quality of the local wells.

This gravel pit has a low side 5' above the pond water level of exposed sand adjacent tp Doug Norris's Pit that looks like a dike separating and containing these elevated ponds. Not ideal as it looks more like a dam.

Filling a pond with beetle kill trees and slash or dirt will displace the water resulting in overflow of the ponds. The water has to go someplace.

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Water containment, Junk equipment, miscellaneous scrap and metal, older shop buildings.

Truly amazing to look at the new regulated material sites compared to the older uncontrolled sites.  
Help to keep the KPB clean, vote to regulate and control these older unregulated sites and pits.

**From:** [Blankenship, Johni](#)  
**To:** [Warner, Avery](#)  
**Subject:** FW: <EXTERNAL-SENDER>Visual Screening of a Material Site  
**Date:** Thursday, September 1, 2022 9:57:11 AM

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[For laydown packet](#)

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**From:** Hans Bilben <catchalaska@alaska.net>  
**Sent:** Wednesday, August 31, 2022 10:43 AM  
**To:** Blankenship, Johni <JBlankenship@kpb.us>  
**Subject:** <EXTERNAL-SENDER>Visual Screening of a Material Site

CAUTION:This email originated from outside of the KPB system. Please use caution when responding or providing information. Do not click on links or open attachments unless you recognize the sender, know the content is safe and were expecting the communication.

Hi Johni,

Please forward this to all Assembly members and copy to Legal and the Planning Director

Assembly Members,

As you are likely aware, the author/authors of the proposed material site ordinance rewrite have purposely removed visual screening (other than street level, whatever that means) from the ordinance. The result of this action would be that a large number of borough residents will not have equal protection under the law. If you live at street level in a one story structure you're possibly protected, but any multi story dwellings, and all houses at higher elevations will be left totally unprotected from negative visual impact. If the author(s) have a legitimate and legal reason to deny this basic protection, please have them explain it in public. KPB code currently requires visual screening for material sites, marijuana operations, and animal feed lots. MatSu code, which seems to be the foundation for the proposed rewrite, requires visual screening. When a buffer zone is properly designed visual screening and noise screening are both dependent upon visual line of sight. To write the Standard for visual screening out of the ordinance would be a huge step backwards for the residents of this borough.

Please take a couple minutes to read the following information concerning visual

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screening and its relevance to the KPB Comprehensive Plan, and please ensure that any new ordinance will continue to provide this basic protection to ALL residents of the borough.

Thank You,

Hans Bilben

The standards and conditions relating to the operation of a material site are to avoid certain land uses which may be potentially damaging to the public health, safety and welfare (21.25.020). Restrictions must be rationally related to a legitimate government objective, and ensuring protection of the public health, safety and welfare is a legitimate objective.

Standards and conditions to “minimize visual impacts” certainly shield surrounding property owners from actually seeing the material site activities. But they also do more – they mitigate against devaluing surrounding land values (a public welfare issue); they mitigate against noise (public health); they mitigate against dust (public health); they mitigate against the potential that a material site turns into an attractive nuisance (which is a dangerous condition on a landowner’s property that may

particularly attract children onto the land and pose a risk to their safety) as essentially what is being created appear to neighboring (public safety); they mitigate against the negative impacts such sites have on preservation of the scenic beauty and furtherance of the tourism industry (public welfare) (Per comprehensive plan, tourism and hospitality are major parts of the Kenai region's economy and represent the second-largest private employment sector after healthcare)

The guiding principals to better regulate land use are  
Balance and integrate multiple interests in land use: the right to use land as you choose; the right to not be excessively impacted by neighbors who exercise that freedom; and the shared value in protecting the underlying health of borough natural systems  
Develop regulations that will minimize conflicts between adjoining uses, maintain property values, maintain and improve neighborhoods, communities and natural systems  
Develop an improved set of Borough land use regulations to reduce reoccurring conflicts on the same narrow set of issues such as gravel pits.  
The Comprehensive Plan specifically calls for consideration of establishing conditions that require larger setbacks, safety and visual screening, control on access routes, control on hours of operation, and address

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environmental concerns.

Consideration of updating the list of topics that staff and Planning Commission may consider when setting conditions of approval.

Incorporate safety, visual quality, environmental impacts and traffic impacts.

**From:** [Blankenship, Johni](#)  
**To:** [Warner, Avery](#)  
**Subject:** FW: <EXTERNAL-SENDER>Fwd: Gravel pit in back of 50-51 Greenridge Drive causing flooding and eroding my property. Ordinance 2022-36  
**Date:** Thursday, September 1, 2022 12:22:41 PM

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## Laydown public comment

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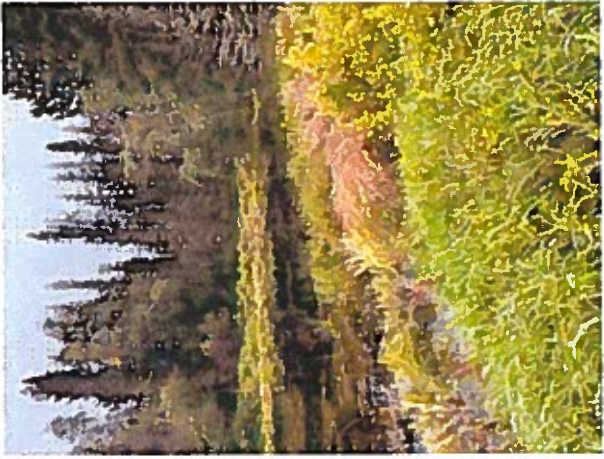
**From:** DR Lee <[dr.lee@live.com](mailto:dr.lee@live.com)>  
**Sent:** Thursday, September 1, 2022 12:09 PM  
**To:** G\_Notify\_AssemblyClerk <[G\\_Notify\\_AssemblyClerk@kpb.us](mailto:G_Notify_AssemblyClerk@kpb.us)>  
**Subject:** <EXTERNAL-SENDER>Fwd: Gravel pit in back of 50-51 Greenridge Drive causing flooding and eroding my property. Ordinance 2022-36

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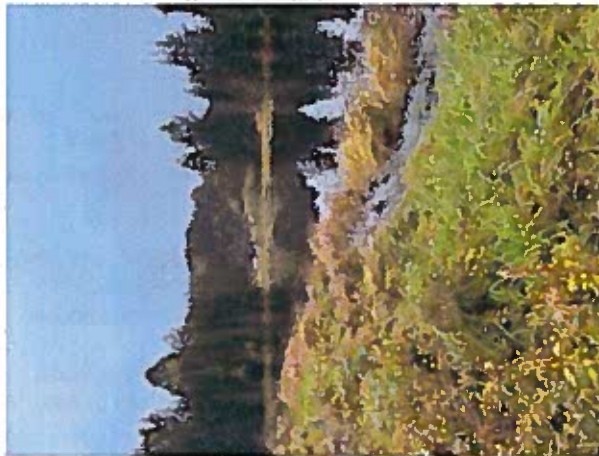
Sent from my iPhone

Begin forwarded message:

**From:** DR Lee <[dr.lee@live.com](mailto:dr.lee@live.com)>  
**Date:** September 1, 2022 at 12:07:34 PM AKDT  
**To:** [assemblyclerk@kpb.com](mailto:assemblyclerk@kpb.com)  
**Cc:** Ohare Russ <[ro\\_ua@live.com](mailto:ro_ua@live.com)>, Soldotna Neighbors Elena Staab <[elena-joy@hotmail.com](mailto:elena-joy@hotmail.com)>  
**Subject:** Gravel pit in back of 50-51 Greenridge Drive causing flooding and eroding my property. Ordinance 2022-36







Sent from my iPhone

We have owned lots 50-51 Greenridge Street in Ridgeway for over 12 years; and, we have never seen the pond in back of the property overflow or be even high. The pond is usually very low. For the past week the pond has overflowed and it's now eroding our property. Greenridge Street is flooded.

If you drive and observe the pit that is adjacent to Kobuk Street and Spruce Ave E and that now surrounds this area, you will see that the topography and drainage resulting from the pit overreach is changed and flooding; thus, ruining the residential property in the area. This overreach must stop.

Thank you for a quick resolution to this problem.

Sincerely,

Drs Cynthia Lee and Russell James O'Hare  
907-3782987

2022-36

From Gary and Eileen D Sheridan, Anchor Point, AK

**For State of Alaska residents and tourists health, safety, and sight, Please Add this Amendment to the new KPB Regulations for Gravel Pits Under 21.29.040. Add B. Gravel Pits will not be allowed in a residential area, close to recreational State Parks and Rivers, due to the Silica that can be inhaled and cause Silicosis and other fatal conditions.**

Notice in the following articles, what other illnesses the silica dust can cause.

What is Silicosis? Please read the following articles.

<https://www.stopthegravelpit.com/post/crystalline-silica-dust-the-invisible-killer>  
attached.

Also, From MedlinePlus - part included

<https://medlineplus.gov/ency/article/000134.htm>

"Causes - Silica is common, naturally-occurring crystal. It is found in most rock bed. Silica dust forms during mining, quarrying, tunnelling, and working with certain metal ores. Silica is a main part of sand, glass workers and sand-blasters are also exposed to silica. Three types of silicosis occur:

Chronic silicosis, which results from long-term exposure (more than 20 years) to low amounts of silica dust. The silica dust causes swelling in the lungs and chest lymph nodes. This disease may cause people to have trouble breathing. This is the most common form of silicosis.

Accelerated silicosis, which occurs after exposure to larger amounts of silica over shorter period of time (5-15 years). Swelling in the lungs and symptoms occur faster than in simple silicosis.

Acute silicosis, which results from short-term exposure to very large amounts of silica. The lungs become very inflamed and can fill with fluid, causing severe shortness of breath and a low blood oxygen level....Intense exposure to silica can cause disease within a year. But it usually takes at least 10 - 15 years of exposure before symptoms occur. Silicosis has become less common since the Occupational Safety and Health Administration (OSHA) created regulations requiring the use of protective equipment, which limits the amount of silica dust workers inhale....."click on the reference above to finish reading.

Also read please

<https://www.sciencedirect.com/topics/medicine-and-dentistry/silicosis>

The noise even a block away can cause such noise to disturbances as it did me this summer after a busy day and needing sleep. Can you imagine being a visitor coming to enjoy the State camp ground on the Anchor River for a week's or holiday vacation and having to deal with the noise of the machines working the gravel pit and trucks.

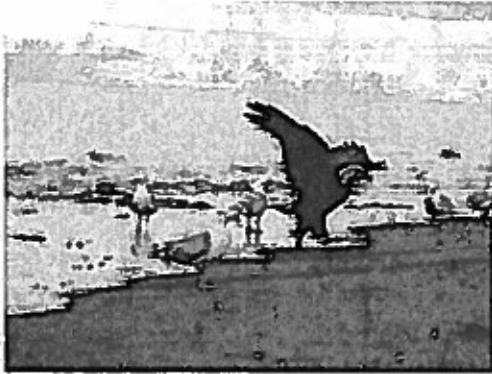
I don't know how the KPB can possibly agree to have a gravel pit and mining that may cause such illnesses to our families, grandchildren, and tourists. I'm now scared for my grandchildren that came this summer to fish and vacation with grandpa and grandma and enjoyed running around in our yard, riding the bikes grandpa had fixed up for them. Have we unknowingly allowed them to have the start of Silicosis from the gravel pit which was denied but then given 2.5 acres to work? We built a "Beachy Built Home" with an air system never expecting to have

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**From Gary and Eileen D Sheridan, Anchor Point, AK**

**a gravel pit being put in 15 years later. That fine dust gets in everything. Look at the different types of cancer that has been shown to be causes of gravel pits and mining. I know what it is like to fight cancer. I had just started treatments in Soldotna when we first found out there was a plan to have a gravel pit in our neighborhood. Our rivers help bring our tourist businesses, and we should protect those businesses, too.**

**Respectfully submitted to the work group of KPB to update regulations for Gravel Pits, Eileen and Gary Sheridan**



**Photo by friend of ours who visits us almost every year.**

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# **Crystalline Silica Dust — The Invisible Killer**

**How a *Totally Unnecessary* Gravel Mine Would Create  
Widely Known Deadly Health Issues  
That Would Harm Hundreds of Benzie County Residents**

Developed for and Presented to the  
**Homestead Inland Joint Planning Commission**  
December 6, 2019

prepared by



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## **Crystalline Silica Dust — The Invisible Killer**

### **Summary**

The proposal of an open pit gravel mine in a district zoned Rural Residential creates numerous very serious consequences. This report primarily examines the devastating health issues created by crystalline silica dust, an unavoidable byproduct produced when mining gravel.

Until recently, few understood the dangers created by crystalline silica dust. Unlike normal sand, crystalline silica dust has razor sharp edges and is microscopic in size. When inhaled, it bypasses the body's natural defenses and become *permanently* lodged in the deepest parts of the lungs. It has proven links to diseases that lead to death including silicosis, lung cancer, COPD, renal failure, and kidney disease as well as causing auto-immune diseases like rheumatoid arthritis. These health issues are so grave that OSHA and MIOSHA have recently adopted new safety standards to deal with crystalline silica dust. Both agencies are involved in a massive educational drive to warn workers about the dangers.

Not only is crystalline silica dust deadly, it is difficult to control. Clouds of it can easily be swept up and carried by the wind for tens of miles. Even in what weather experts call 'calm' winds, this deadly dust can travel for miles settling in the yards and on the homes and innocent bystanders in Inland Township, its three neighboring townships, and even further.

All of the related diseases crystalline silica dust is widely known to cause serve as sufficient proof of a 'very serious consequence' health based issue as required under MCL 125.3205 Sec. 205 (5)(e). Denying the requested special use permit for this totally unnecessary gravel mine at parcel 08-006-007-00 is the only logical, fair, and humane course of action the HIJPC can take.

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Direct any questions  
about this report to:

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## Crystalline Silica Dust — The Invisible Killer

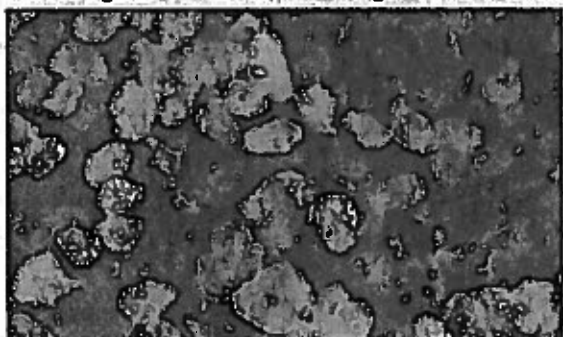
### Sand's Tiny Secrets — Size, Material, & Shape

Sand holds some interesting secrets. We think we know what it is, but do we? Technically, 'sand' is any sediment whose particles are 60µm (microns or micrometers) or larger. Granules smaller than 60µm down to 2µm are considered 'silt.' For a point of reference, the hairs on your head are typically 10µm thick.

Sand is often referred to as 'silica.' Most sand deposits are primarily made up of quartz, but other minerals are usually found. Quartz is *crystalline silica*, a silicate mineral made of silicon dioxide (SiO<sub>2</sub>), silicon and oxygen. It is the most abundant mineral found in sand.

Figure 1 shows a typical sample of sand, not unlike that which is found all around northern Michigan. It is comprised mostly of crystalline silica (quartz), with some epidote, garnet, potassium feldspar, and a few other minerals.

Figure 1 — 'Sand' ( 300x Magnification )



Different types of sands are put to work in a wide range of useful applications including: road construction, concrete, filtration, glass, ceramics, and computer chips. They also vary considerably in their marketable value.

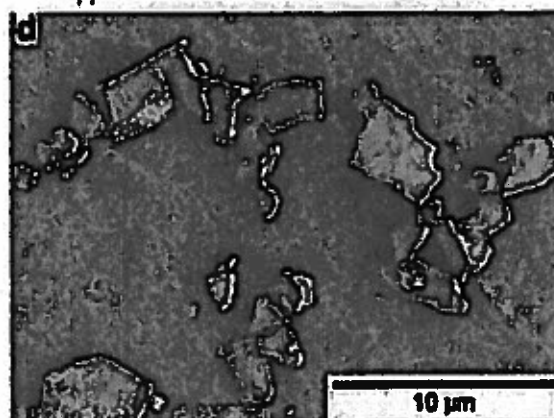
Most sand with which we are familiar is heavily weathered. It has the familiar shape of

stones washed up along the Lake Michigan shoreline. While their sizes may vary a bit, they all have nicely rounded, smooth edges.

Digging into the earth when mining for gravel, the size and shape of these unweathered common sand granules change dramatically.

Figure 2 — Crystalline Silica Dust  
( 5,000x Magnification )

Appendix A shows three even smaller sizes.



Note the 10µm graphic in Figure 2. That's the width of a typical human hair. Anything smaller than 5µm is invisible to the naked eye, unless there are billions of particles — as in crystalline silica dust clouds (see Appx. D p.4).

These jagged microscopic sub-10µm particles are as sharp as a stone-age flint knife — and they can kill you!

### Crystalline Silica Dust *IS* Deadly

Unlike beach sand which is just annoying when it sticks to your skin and swimsuit, crystalline silica dust *is* a killer. Don't take our word for it, just take OSHA's.<sup>2</sup>

*"[Those inhaling] these very small crystalline silica particles are at increased risk of developing serious silica-related diseases."*

<sup>1</sup> Silica...It's Not Just Dust: Silica Dust Causes Silicosis - What rock drillers can do to protect their lungs from silica dust, Center for Disease Control and Prevention, National Institute for Occupational Safety and Health, NIOSH Publications, 97-118, July 1998

<sup>2</sup> *Respirable Crystalline Silica*, Occupational Safety and Health Administration, United States Department of Labor, [osha.gov/dsg/topics/silicacrystalline/](http://osha.gov/dsg/topics/silicacrystalline/)

## Crystalline Silica Dust — The Invisible Killer

In 2017, OSHA completely revamped their requirements for worker safety when engaged in activities where crystalline silica is present.

Plastered all over OSHA's website and materials is the warning graphic shown here.



So, what exactly are those 'serious silica-related diseases?' They include (but are not limited to):

- ☛ Silicosis
- ☛ Lung Cancer
- ☛ COPD (Chronic Obstructive Pulmonary Disease)
- ☛ Kidney Disease

Silicosis is an *incurable* lung disease that leads to disability and death. We've all heard of 'black lung disease.' Black lung expert, Dr. Robert Cohen, has recently warned that

*"[Crystalline] Silica could be even more dangerous to workers than coal dust.*

*[Crystalline] Silica is actually a lung carcinogen. And it causes renal disease, it causes other auto-immune diseases like rheumatoid arthritis and other things, so silica exposure is a huge problem.<sup>3</sup>*

So serious is this issue that even the Michigan Aggregate Association (the lobbying organization behind the totally discredited MDOT *Michigan Aggregates Market Study Ph I & Ph II Reports*) is actively encouraging its member supporters to attend OSHA approved silica training!<sup>4</sup> Why does the MAA promote this you ask?

*"To increase workers' awareness of the serious health hazards of silica dust and provide the knowledge necessary for employee protections."*

### Why is Crystalline Silica Dust So Deadly?

Mother Nature provided our respiratory tracts with a host of protective mechanisms to 'filter out' most of the junk that *naturally* occurs in our air. Since most of what nature throws at us is over 10µm in size, we do a pretty good job of keeping the bad stuff out of our bodies.

However, breathing crystalline silica dust is the equivalent of inhaling millions of microscopic razor blades. As shown in Appendix A, these dust particles can be as small as .01µm.

These invisible particles pass all body defense mechanisms and become embedded in the deepest reaches of the lungs. This is where the greatest danger lies as they reach the alveoli, the finest branches of the lungs where the oxygen/carbon dioxide exchange takes place.<sup>5</sup>

When inhaled, particulate matter larger than 5µm usually gets trapped and expelled before it reaches the lung's gas-exchange zone. Particles smaller than 5µm are considered to be 'respirable,' meaning they can reach the deepest parts of the human lungs.

<sup>3</sup> Silica safety urged in QLD, OHS Career, March 21, 2017, ohscareer.com.au

<sup>4</sup> Protecting and Promoting Your Interests, Michigan Aggregate Association, November 16, 2019 See Appendix B

<sup>5</sup> A. Voss and S. Alfano, *The Body's Defenses Against Breathing Dirty Air*, ProRemodler, June 23, 2016



## Crystalline Silica Dust — The Invisible Killer

Mother Nature never planned on us being exposed to crystalline silica dust, certainly not in the quantities produced by our many industrial activities. Silicosis can develop very quickly and (short of an entire lung transplant) is completely untreatable.

### Think You're Safe? — Wrong!

OSHA is making a tremendous push to raise worker awareness of the real hazards created by crystalline silica dust. Wearing adequate dust protection, respirators, and controlling the dust in the first place will save countless lives. How about those who don't work around this stuff?

Non-occupational exposure to crystalline silica dust is even greater cause for concern. As this 'killer dust' spreads miles past its place of origin it not only lingers in the air but settles everywhere — including *inside* homes.

We spend the majority of our time at home. Depending on our job and lifestyle that can be 70%-100% of our time. Unlike a protected work environment, exposure at home is unprotected and constant. Home settings also includes children and the elderly who are more vulnerable than able bodied workers. Not only do children breath more deeply than adults, their smaller body mass means their comparable exposure risk is much higher.<sup>6</sup>

Exposure limits for crystalline silica differ considerably between work and non-occupational exposure. OSHA's permissible exposure limit is 50 micrograms per cubic meter during an 8-hour workday.<sup>7</sup> Michigan follows these guidelines which includes an

'action level' set at 25 micrograms per cubic meter. Michigan also requires employers to safeguard employees from exposure, provide them with respiratory protection, maintain medical surveillance, engage in hazard communication, and keep good records.<sup>8</sup>

For those who spend all their time at home, equivalent exposure limits would fall below 12 micrograms per cubic meter for exposure and 6 micrograms per cubic meter for action.

### I'm Nowhere Near Silica Dust — Really?

Turns out, size really does matter. For crystalline silica dust, the smaller it is the more threatening it becomes. Not only is this invisible dust respirable, it easily becomes airborne, stays airborne for extended periods of time, and travels incredible distances.<sup>9</sup>

Particles typically need to be under 200µm in size to become airborne. Those smaller than 10µm are invisible and smaller than 5µm penetrate our immune system. As shown in Figure 3, dangerous crystalline silica dust easily travels for miles. It not only affects people at the source but those in surrounding neighborhoods. In some measured cases as far away as 50 miles.<sup>10</sup>

Figure 3 – Distance Traveled by Particulate Size

Wind Speed (mph)	Miles Traveled	
	10µm	5µm
3.1	0.55	2.2
6.2	1.1	4.5
12.4	2.3	9
24.8	4.6	18
37.3	6.9	27
49.7	9.2	36.1

<sup>6</sup> J. Warren, *Silica Monitoring*, Public Lab, publiclab.org, February 22, 2018

<sup>7</sup> C.A. Epstein, *Everything You Need to Know About OSHA's Respirable Crystalline Silica Final Rule*, February 2, 2018, oshaonline.com

<sup>8</sup> *Crystalline Silica Exposure*, MIOSHA Fact Sheet, CSH Fact Sheet - #109, Revised October 12, 2017

<sup>9</sup> *Silica Dust Particle Size Causes Problems*, BossTek, 2019, bosstek.com/silica-dust-compliance/silica-particle-size-behavior

<sup>10</sup> *How Far Can Respirable dust Actually Travel?*, Insider News, NeSilex, September 24, 2019

## Crystalline Silica Dust — The Invisible Killer

### How Far Will Silica Dust Spread Here?

The only available historic 'local' wind measurements are those taken at the Frankfort and Traverse City airports. Appendix C contains the diagrams of the wind history at both airports for the months of May – October (the busiest times for gravel production).

Roughly one-third of the time the wind is calm (less than 5.8mph). Calm doesn't mean 'dead calm.' Shown as red in Figure 5, at 5.8mph respirable silica would still travel 4.2 miles from the proposed 150-acre gravel mine.

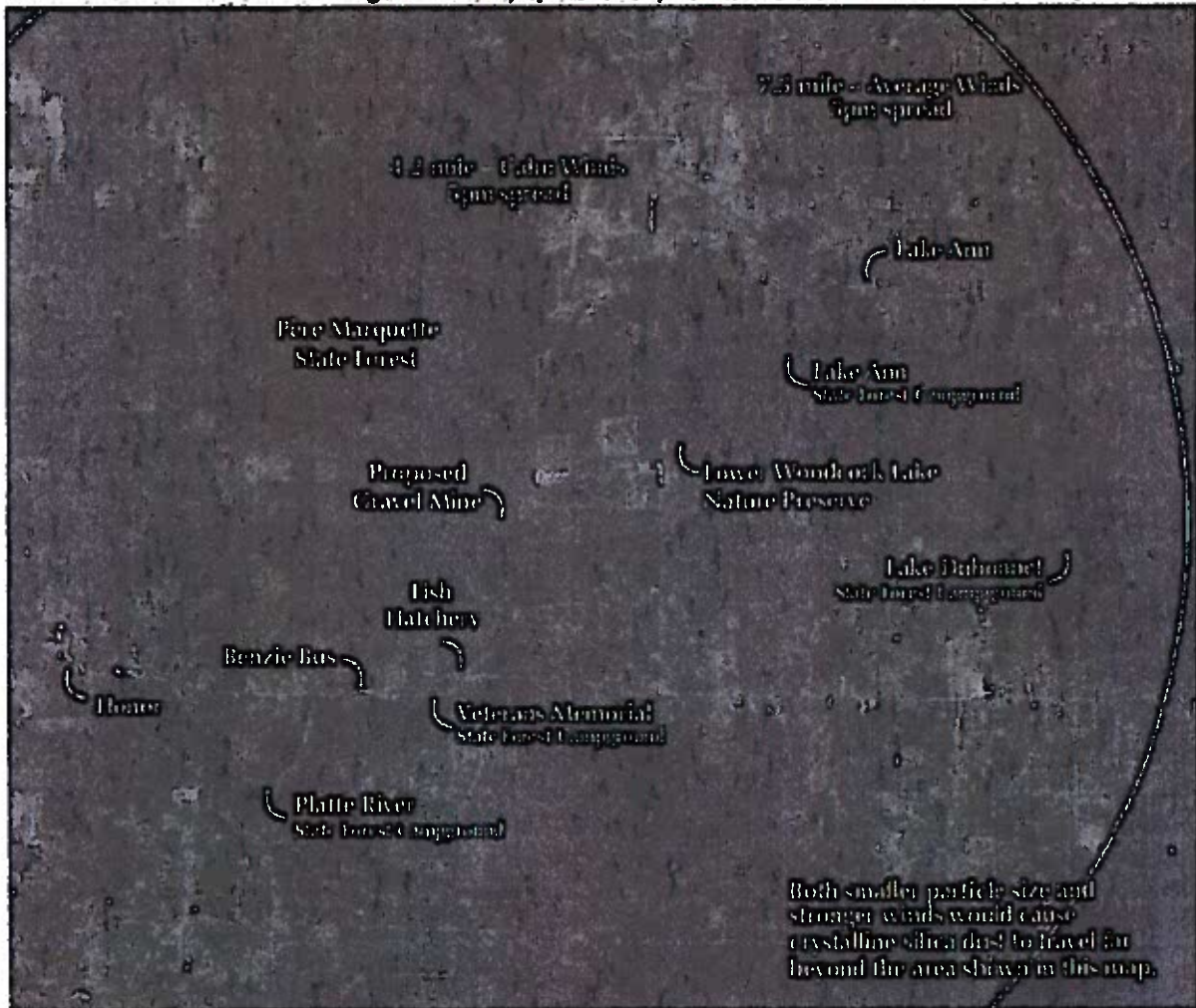
This area's Average windspeed over the past three years for May – October, the average Maximum sustained winds, and average Gusts are shown in Figure 4. The miles that silica dust can be spread relates to particulate size.<sup>11</sup>

Figure 4 – Crystalline Silica Dust Wind Distribution

	Wind Speed (mph)	Miles Traveled	
		10µm	5µm
Calm	<5.8	<1.0	<4.2
Average	10.3	1.9	7.5
Maximum	23.9	4.4	17.4
Gusts	39.8	7.4	28.9

Note: Silica Dust smaller than 5µm travels even further!

Figure 5 – Likely Spread of Crystalline Silica Dust



<sup>11</sup> While wind data was pulled from the Weather Underground, all data originates from the National Centers for Environmental Information, National Oceanic and Atmospheric Administration.

## Crystalline Silica Dust — The Invisible Killer

It's easy to understand how these microscopic razor blades carry so far in gentle winds. Strong gusts can carry crystalline silica dust all the way to Traverse City or Frankfort. As duly noted in the Homestead Inland Townships Master Plan, this truly is an issue of "Greater Than Local Concern."

**Where's the Problem? – You Can't Be Serious!**  
Mr. Leman has done little to instill confidence that he understands the consequences of his desire to have a hobby gravel mine. In a September 12, 2019, TV 7&4 News interview, Mr. Leman states

*"There's no production things we processes that we would do here which would pollute the ground in any way. That sand and gravel is already in the ground."*

Seriously? It is obvious he doesn't understand the environmental impact of gravel mining or the dangerous release of crystalline silica dust which mining causes.

Mr. Leman is also quoted in that interview and in papers saying he's only going to work on 4-acres at a time. Yet all of the plans submitted to and described at HIJPC meetings clearly show sections of 6+ acres. If he is so inattentive to these and other details, how can he ever be trusted to understand or look after what's necessary to run a gravel mine safely?

Crystalline silica dust is a serious health issue. Given Mr. Leman's lack of responsiveness to providing a complete and timely application, let alone his inconsistency within those plans, many believe he's not taking things seriously. If that's the case and if his special use permit is granted, many wonder if he would ever follow safety precautions or take any laws seriously.

Given there appears to be no statutory value to the gravel as defined under MCL 125.3205 Sec. 205 (3) and there are considerable health risks, in the opinion of neighboring residents the risks completely outweigh the non-benefit.

Having focused on the harm silica dust does to humans, the same needs to be noted about the local wildlife. Further, local organic farming would also be disrupted as the strict protocols of being organic are unavoidably, unfairly, and unjustifiably violated. Even on a 'calm' day, over 55-square miles are put at risk. Kick the wind up to 'average' speed and the number jumps to over 176-square miles.

It is abundantly obvious that allowing the operation of an open pit gravel mine would create uncontrolled crystalline silica dust.

Beyond the flood of studies readily discoverable online and the recently adopted push by OSHA to protect workers, this report clearly outlines the very serious consequence that would result from granting the requested special use permit. It fulfills the requirement of defining a 'very serious consequence' under MCL 125.3205 Sec. 205 (5)(e)

*"The impact on other identifiable health, safety, and welfare interests in the local unit of government."*

**But It's Just a Small Operation – Yeh, Right!**  
Getting one's foot in the door appears to be a standard ploy. There are dozens (if not hundreds) of stories about little mining operations that were never supposed to grow much bigger — but did — and did so quickly. Here's just one of those stories.

Downstate in Grass Lake Township, just 25 miles west of Ann Arbor, the Bohne Road Gravel Mine started as a little operation.



## Crystalline Silica Dust — The Invisible Killer

The local farmer was granted a special use permit to mine sand on his land for his own use on his farm. No big deal, right?

Then the farmer sells his farm to a company that expands the mine's operation into gravel extraction — hey, the special use permit said sand and gravel, not 'just sand.' The mine grew quickly. So did the problems.

In addition to the quality of life disruption and property devaluation experienced by the gravel mine's neighbors, crystalline silica dust became problematic. As some residents shared with their planning commission<sup>12</sup>

*"...the dust issue is a HUGE factor here."*

*"The gravel pit is a serious health risk."*

*"...my windows haven't been open since the mine was started."*

*"There is dust all over the plants and trees in the yard as well as the house and car on a daily basis."*

*"The dust is a nightmare!! It's constantly in the air..."*

*"We are concerned for the health of our family, my daughter and I have severe asthma ... we will have to continue to wear our masks to try and keep the contaminants out of our lungs. Why do we have to suffer?"*

*"There is overwhelming evidence regarding longterm silica dust exposure and respiratory disease. Residents near Bohne Road gravel pit testified they now suffer form respiratory diseases such as asthma and COPD."*

*"Why should the residents be subjected to all these issues from this gravel pit?"*

The last comment raises a great question.

Figure 6 – Crystalline Silica Dust *Inside* a Home (near the Bohne Road Gravel Mine)



As the years passed, the gravel mine was sold to its new owner who now wants to expand operations even further. What was once a 'little private sand mine' has turned a community upside down with a full-blown gravel mining as shown in the pictures of Figure 7 on the next page.

**Don't Tell Us It Can't Happen Here!**  
It could. Far too easily it could. Need or benefit of this gravel mine does not exist. The damage to the community would be devastating and permanent. The HJPC has evidence of very serious consequences which it can utilize to equitably and justifiably deny the requested special use permit. Crystalline silica dust is perhaps the most compelling of all very serious consequences.

<sup>12</sup> Excerpts from a private Memorandum from Dr. Sandra McCoy, December 3, 2019, full memorandum in Appendix D

**Crystalline Silica Dust — The Invisible Killer**

**Figure 7 – Bohne Road Gravel Mine, Grass Lake Township, Michigan**





### Conclusion

To the communities' knowledge, Mr. Leman has failed to provide credible evidence that there is a need for more gravel production in Benzie County. With over a dozen-and-a-half gravel mines within 2 – 12 miles with at least two being major operators, supply far exceeds demand.

To underscore Mr. Leman's apparent lack of market awareness, in his September 12, 2019, TV 7&4 News interview, he states

*"People want to move to our area and the demand for construction materials is certainly there. Sand and gravel from our community means you don't waste fuel and truck this stuff in from a long ways away. They can get it right down the street."*

First, as noted in the newly formed Inland Township Planning Commission's November 27, 2019 draft Master Plan, as reported by the official U.S. Census, Inland's population has fallen 8.6% since 2010. People certainly may want to move here, but the official numbers suggest they aren't doing so. "Demand for construction materials is certainly [here]" — and it is being more than sufficiently met by existing operators. More gravel mines in our area are *not* needed.

Second, there isn't much building going on 'right down the street' from this 150-acre Rural Residential parcel. Even with the horrible mileage a gravel truck gets, given the close proximity of existing gravel mines, any theoretical savings on 'wasted fuel' is meaningless.

Mr. Leman's hasn't and likely can't justify that mining at this Rural Residential

property would produce revenue of a sufficient enough level that he could reasonably expect to operate at a profit, a requirement under Michigan's Zoning Enabling Act, MCL 125.3205 Sec. 205 (3). In the opinion of many, under this act, this lack of profitability precludes finding value in the gravel on that property.

Even if there were valuable minerals to be found there — a hypothetical, not an acknowledgement — the HIJPC must, as required under Michigan's Zoning Enabling Act, balance that value against the very real health issues extracting it would create.

Clearly stated in MCL 125.3205 Sec. 205 (5)(e) and supported by OHSA, MIOSHA, scores of other reputable organizations, and health experts worldwide, the dangers of crystalline silica dust definitely creates a 'very serious consequence' that would

*"impact on other identifiable health, safety, and welfare interests in the local unit of government."*

The residents of Inland Township and Benzie County would be unduly and unnecessarily punished if the special use permit for parcel 08-006-007-00 were approved.

For the negative financial impacts it would impose on local property values, granting a special use permit would be unfair. For the unavoidable health problems it would unleash, such a decision would be downright cruel.

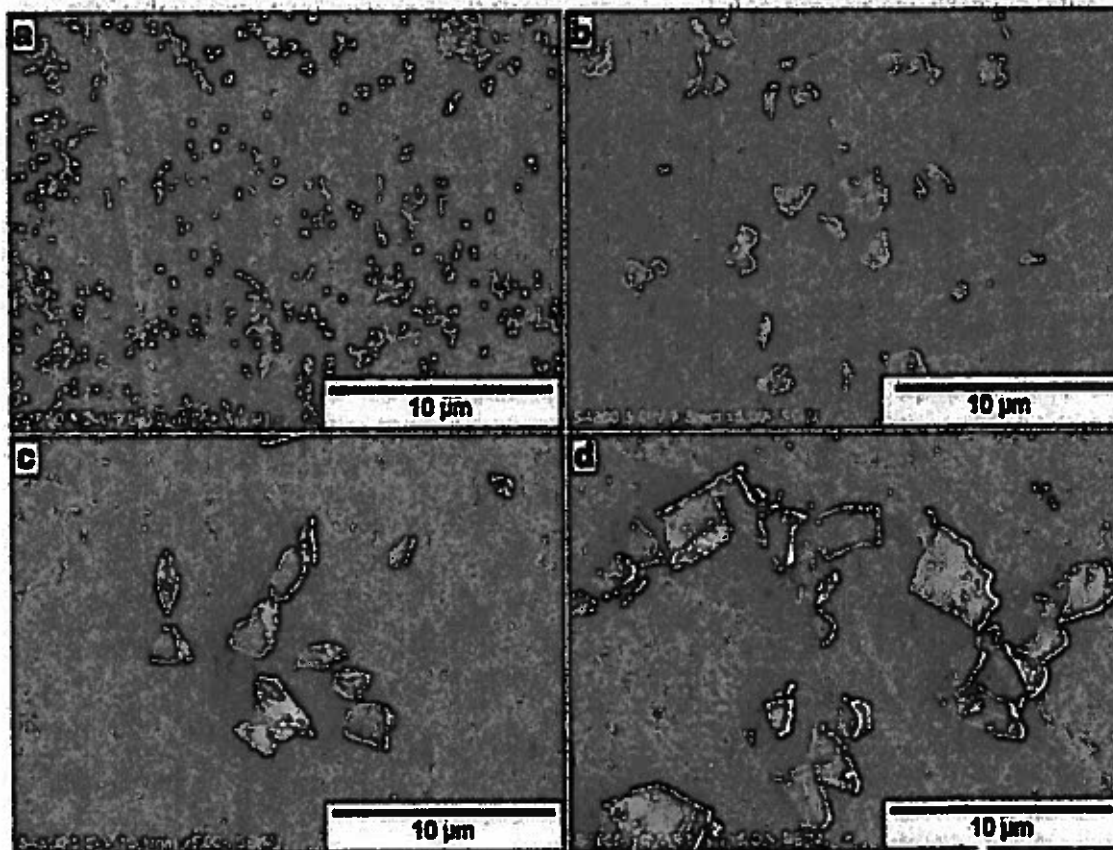


### 5,000x Images of Crystalline Silica Dust

These electron microscope images of the crystalline silica dust sort their sizes from 'ultra-fine' (as small as  $0.01\ \mu\text{m}$ ) to 'course' (up to  $7\ \mu\text{m}$ ). For reference,  $10\ \mu\text{m}$  is the typical width of a human hair, represented here as the graphic insert of each image.

At sizes of  $5\ \mu\text{m}$  and smaller, these microscopic razor blades are not only invisible, they are respirable. That is, when inhaled, they bypass all immune system defenses and can travel all the way to the deepest parts of the human lungs. There they *permanently* imbed themselves and begin creating their havoc on one's health.

As reported here and recognized by the medical community around the world, crystalline silica dust is deadly. It causes silicosis (an *incurable lung disease* that leads to disability and death), lung cancer, COPD (Chronic Obstructive Pulmonary Disease), kidney disease, renal disease, and auto-immune diseases such as rheumatoid arthritis.



Comparison of SEM Images of the four sizes of crystalline silica particles used for this study, (a) Ultrafine (UF), (b) Submicron (S), (c) Respirable (R), and (d) Coarse (C). Images are all at the same magnification (5,000x)

SOURCE: S.E. Mischler et al, *Differential activation of RAW 264.7 macrophages by size-segregated crystalline silica*, Journal of Occupational Medicine and Toxicology, DOI 10.1186/s12995-016-0145-2, December 15, 2016

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### OSHA Approved Silica Training



MAA and MTA has partnered with Wayne State University to offer Respirable Crystalline Silica training.

This program was developed through an OSHA Susan Harwood Training Grant and is designed for the construction industry (construction professionals including but not limited to workers, site superintendents, project managers, safety managers) to increase workers' awareness of the serious health hazards of silica dust and provide the knowledge necessary for employee protections.

The training covers the new OSHA Standard on Respirable Crystalline Silica (29 CFR 1926.1153) and it aims to increase workers' awareness on the serious health hazards associated with silica exposure and provide the knowledge necessary to perform work safely when there is silica exposure and ways to limit silica exposure.

Trainees who complete all the training steps will be eligible to receive a certification.

The cost for the training is provided by funds from the grant but space is limited (max 30), so if you are interested please contact the MAA office to register. Space will be filled on first come basis.

Training dates and locations are as follows:

All training times will be from 10:00 am to 12:00 pm.

December 12, 2019

Michigan CAT  
Grand Rapids, MI

December 18, 2019

AIS Construction Equipment - Lansing  
3600 N Grand River Ave  
Lansing, MI 48906

For more information about these sessions, please click here.

([https://gallery.malchimg.com/d250bd5a823dc5dd5e1625052/files/76fc3d95-753e-44ad-9b3a-b1ae46de08bf/SH\\_Silica\\_Training\\_Marketing\\_Flyer.pdf](https://gallery.malchimg.com/d250bd5a823dc5dd5e1625052/files/76fc3d95-753e-44ad-9b3a-b1ae46de08bf/SH_Silica_Training_Marketing_Flyer.pdf))

If you have any questions, please contact the MAA office at 517-381-1732

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OSHA SUSAN HARWOOD GRANT  
RESPIRABLE CRYSTALLINE SILICA SAFT BY TRAINING

## In-Class Silica Safety Training for Construction Industry

**Training contact hours:**  
1.5 to 2 Hours



Effective October 23, 2017, OSHA has been fully enforcing all appropriate provisions of the Silica in Construction standard.

Our OSHA APPROVED TRAINING MATERIALS were developed under an OSHA Susan Harwood training grant and designed for the construction industry to increase workers' awareness of the serious health hazards of silica dust and provide the knowledge necessary for employee protections.

This training is for all the construction professionals including but not limited to workers, site superintendents, project managers, safety managers and employers.

If you are interested in an in-class training for your company or organization, please contact one of the training coordinators below to schedule a session.

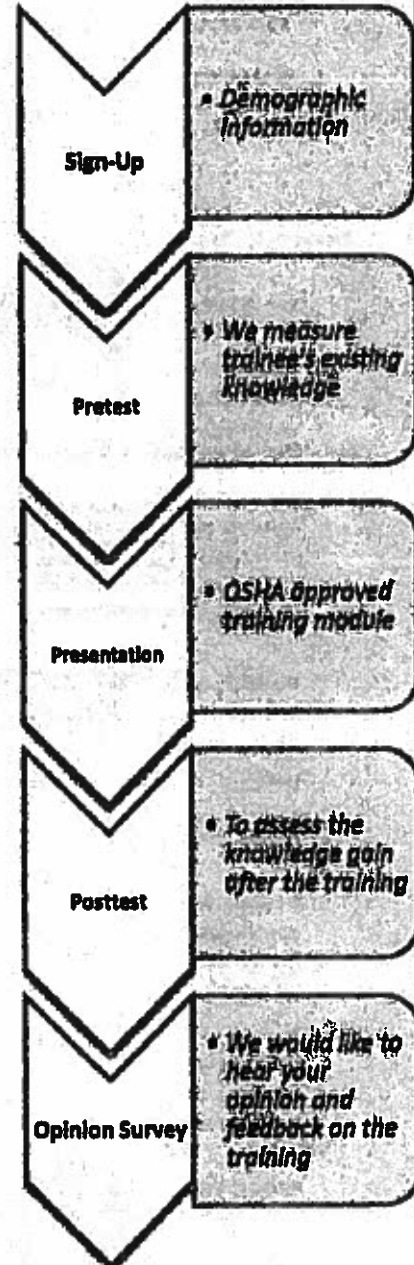
### Training Session Scheduling or for More Information

#### Please Contact

Mumtaz A. Usmen, PhD, PE  
e-mail : [musmen@eng.wayne.edu](mailto:musmen@eng.wayne.edu)  
Phone: (313) 577-3608

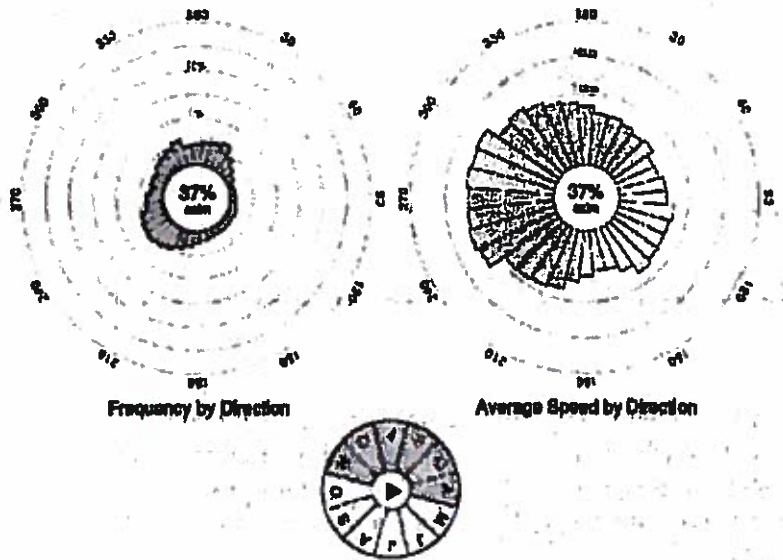
Emrah Kazan, PhD  
e-mail: [ekazan@wayne.edu](mailto:ekazan@wayne.edu)

**TRAINEES WHO PARTICIPATE in and complete the whole training will receive a certificate.**



This material was produced under a grant (SH-05039-SH8) from the Occupational Health Administration, U.S. Department of Labor. It does not necessarily reflect the views or policies of the U.S. Department of Labor, nor does the mention of trade names, commercial products, or organization imply endorsement by the U.S. Government.

### KTVC: Cherry Capital Airport

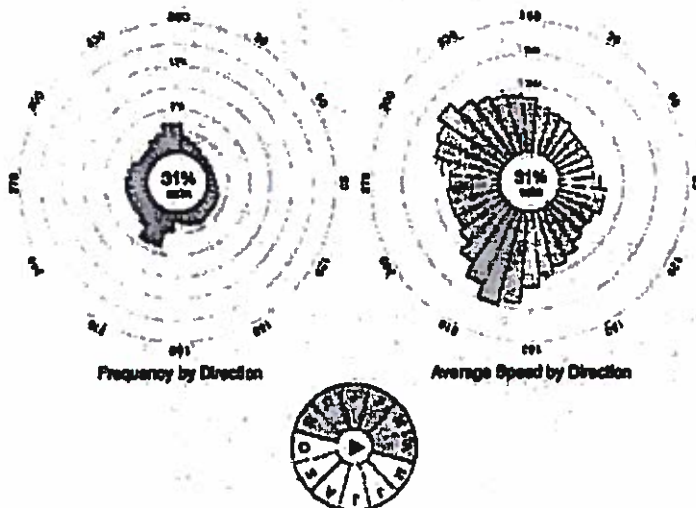


44.7438, -83.1885 Weatherpack Wunderground VFRMap FlightFinder NavMonster

A diagram of the prevailing winds at KTVC: Cherry Capital Airport. The blue diagram at left is a wind rose; the bar length shows the frequency of winds from each direction. In the red diagram at right the bar length shows the average speed of winds when they come from that direction. For more information, see about this site.

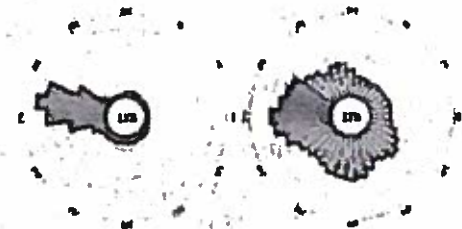
WindHistory. Copyright © 2011 Deedee LLC, LLC. All rights reserved.

### KFKS: Frankfort, Frankfort Dow Memorial Field Airport



SOURCE: Weather Underground wunderground.com reported data from NOAA (National Centers for Environmental Information) National Oceanic and Atmospheric Administration

#### STATION VIEW



The station view shows the prevailing winds for a single weather station. Above is an example image for KSPFO, San Francisco airport.

The blue diagram at left is a classic Wind Rose. The length of each bar is proportional to the frequency the wind comes from each direction and the color is proportional to the average speed. At KSPFO the wind is pretty much always from the west. The most common direction is 270°, 10% of the time with an average speed of 10kts.

The red diagram at right shows the same data as the wind rose but emphasizes wind speed. Bar length is proportional to average speed and color is proportional to frequency. At KSPFO northeast winds are rare, but when they come they tend to be light. The strongest winds come from 270°, 10kts 11% of the time.

You may hover the mouse over a bar to see exact statistical data. In both diagrams the percentage in the middle indicates how often the winds are less than 6 knots (10% at KSPFO). There are links on the station page for further information. Weatherpack is a particularly nice complementary site showing historical weather.

#### MONTH FILTER

The month filter allows you to display prevailing winds for specific months. Click the extend or wedge to toggle each specific month off and on. Click the play button in the middle to animate your selection through the year.



#### DATA

The source data for these graphs is the NOAA archive. METARs from 2000 to 2010 were parsed and crunched to calculate average winds for each weather station. Reporting variance and data processing errors mean these diagrams are not true statistical samples.

#### BROWSER COMPATIBILITY

This site makes extensive use of SVG for graphics. It should work fine in modern versions of Firefox, Safari, Mobile Safari, Chrome, and Microsoft Internet Explorer 9. It will not work in IE 6, 7, or 8 and never will.

#### FEEDBACK

This site is a labour of love; feedback and suggestions are most welcome. Please mail [jooprasco@windhistory.com](mailto:jooprasco@windhistory.com) with any thoughts you have. Some planned enhancements include showing winds for specific months and showing more detailed histograms.

**MEMORANDUM**

**TO:** Jim Brouwer, Friends of Platte River Watershed  
**FROM:** Sandra McCoy, Ph.D.  
**DATE:** December 3, 2019  
**RE:** Bohne Rd Gravel Mine, Grass Lake, Michigan

Jim,

I moved to Grass Lake Township, Michigan 1-1/2 years ago. Grass Lake is a small town, about 25 minutes West of Ann Arbor. It has a delightful "rural" character and that is what draws many people to settle here. Grass Lake Township has been embroiled in conflicts for many years concerning the incursion of gravel mining into residential areas in our community.

I am pleased to provide some excerpts from letters written by the residents of Grass Lake Township to their Township government over the past several years concerning the Bohne Rd gravel mine which has operated since 2003. These letters were obtained through a FOIA request. Also included are excerpts from Grass Lake Planning Commission meeting minutes. Many of the comments illustrate the negative effects of dust and health concerns related to mining operations in close proximity to residential areas.

"We purchased 5-1/2 acres of land... in 1999 to build our final dream home. Since the start of the sand extraction operation... in August, 2003, our lives have been totally disrupted and our land value has definitely gone down."  
"Needless to say the dust issue is a HUGE factor here. The day they were doing this our whole house and deck were covered with dust and still is. I can't even open my windows. These big earth movers were coming by our property every 10 minutes and the noise and dust was unbearable."

"Gravel pits in residential areas undoubtedly cause health and safety concerns and much disturbance for surrounding residents... The gravel pit on Bohne Road as currently operating provides no benefit to Grass Lake Township... We need to consider the more than 200 people that live within a 2 mile radius of the gravel pit with many living within 50-100 feet of pit operations. These people have stated they now must close their windows due to the dust created by gravel pit operations. This certainly is not a desirable condition for them and we can and must protect the value of our homes, the environment and keep our township a safe place to live in."



"The gravel pit is a serious health risk. There are no six foot trees on the berm to eliminate dust. Many people have not been able to walk in the area as a result of the extreme dust and probable air-borne, dangerous silica. There is no monitoring for silica contamination in the air and in the well water." "There has been no MDEQ study done prior to the original SUP to check for environmental health hazards and issues, including aquifer and water table contamination (well water contamination) and negative wildlife issues."

"I would have my windows open to let the fresh air in... Now my windows haven't been open since the mine (then called gravel pit to make it sound smaller and unobtrusive) was started. There is dust all over the plants and trees in the yard as well as the house and car on a daily basis. Inside my house, a layer of dust accumulates within a few days. I don't work in the yard anymore or hang my clothes outside... I've become a prisoner in my home which is supposed to be an enjoyable, safe haven and an investment."

"We live in a log home on Sager road that we built in 2000 and it was supposed to be our dream home." "We couldn't even open our windows at all and still can't. The dust is a nightmare! It's constantly in the air... and it's destroyed the finish on our home & decks and we have to clean it multiple times in a year now versus every 4-5 years." The biggest and closest to me is being diagnosed with a blood cancer called Multiple Myeloma. I went thru chemo for 9 months twice a week and had a stem cell collection. It's been the hardest 2 years of my life!! I asked my dr. at the UpM cancer center what is the cause of Multiple Myeloma?? He said there is a connection from diesel fumes in the air. There are diesel trucks running all day long right behind my house since they opened this sand mine around 2001 or 2002. So this has been going on for around 17 years now. "

"We are concerned for the health of our family, my daughter and I have severe asthma and are worried over the silica dust among other gravel pit issues that has caused our asthma to be in a constant state of flux. We are concerned with the location of the gravel pit being so close to our property and our well that we use for water. We don't want our well to be contaminated... We unfortunately are not in a position to move, so we will continue to keep our doors and windows shut, continue to have our house vents, ac and heat checked for contaminants that the gravel pit puts upon us, we are not able to enjoy sitting outside on our deck, swimming in our pool and we will have to continue to wear our masks to try and keep the contaminants out of our lungs. Why do we have to suffer?"

"There is overwhelming evidence regarding longterm silica dust exposure and respiratory disease. Residents near Bohne Road gravel pit testified they now suffer from respiratory diseases such as asthma and COPD."

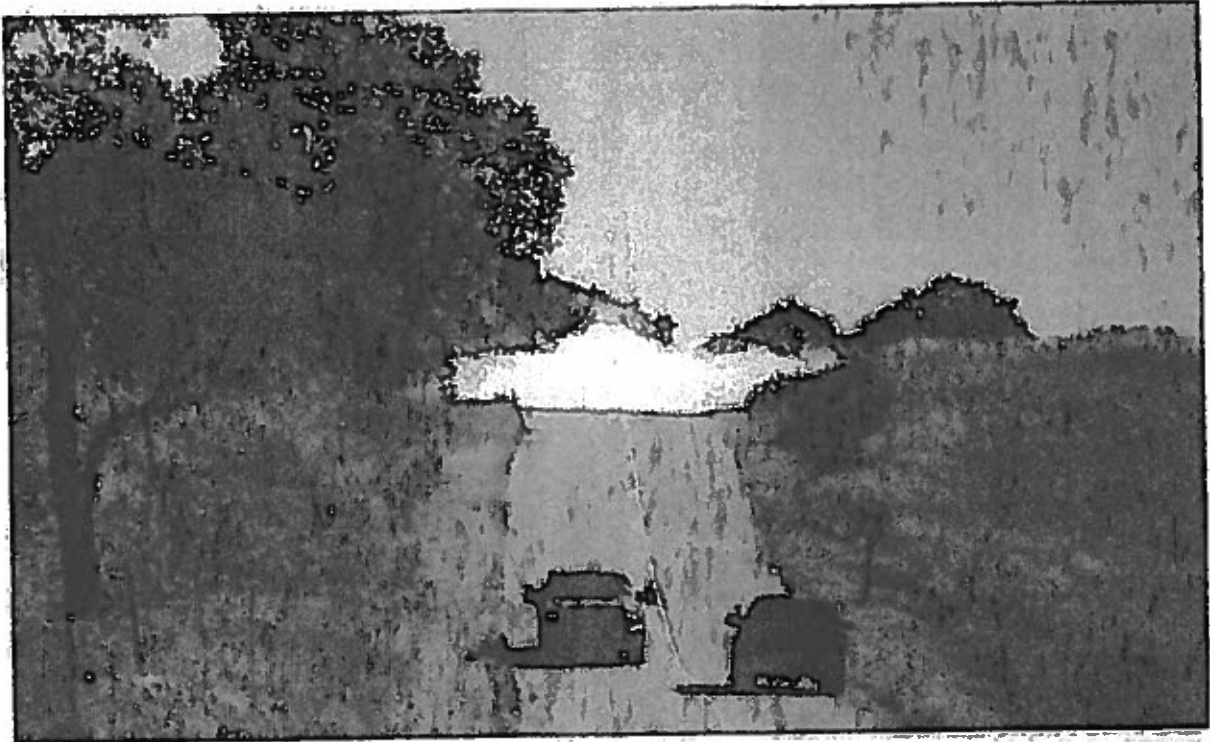
"The site alone is appalling with the noise, dust, contamination of the stream near the gravel pit, the pond, wildlife absent and natural resources. Why is this gravel pit still in operation, from failing to comply with the agreement from 21 March 2018?" "Why should the residents be subjected to all these issues from this gravel pit?"

"8/15/19 1.33pm to 1.40pm, while my husband and I were driving along Bohne Rd, Grass Lake, right near the Bohne Rd Gravel Pit. The dust was so bad we had to pull over on to the side of the road because we couldn't see in front of us." "No only is this mine dangerous to any vehicle who happens to travel along Bohne Rd, the health issues caused by the dust and diesel fumes are catastrophic."

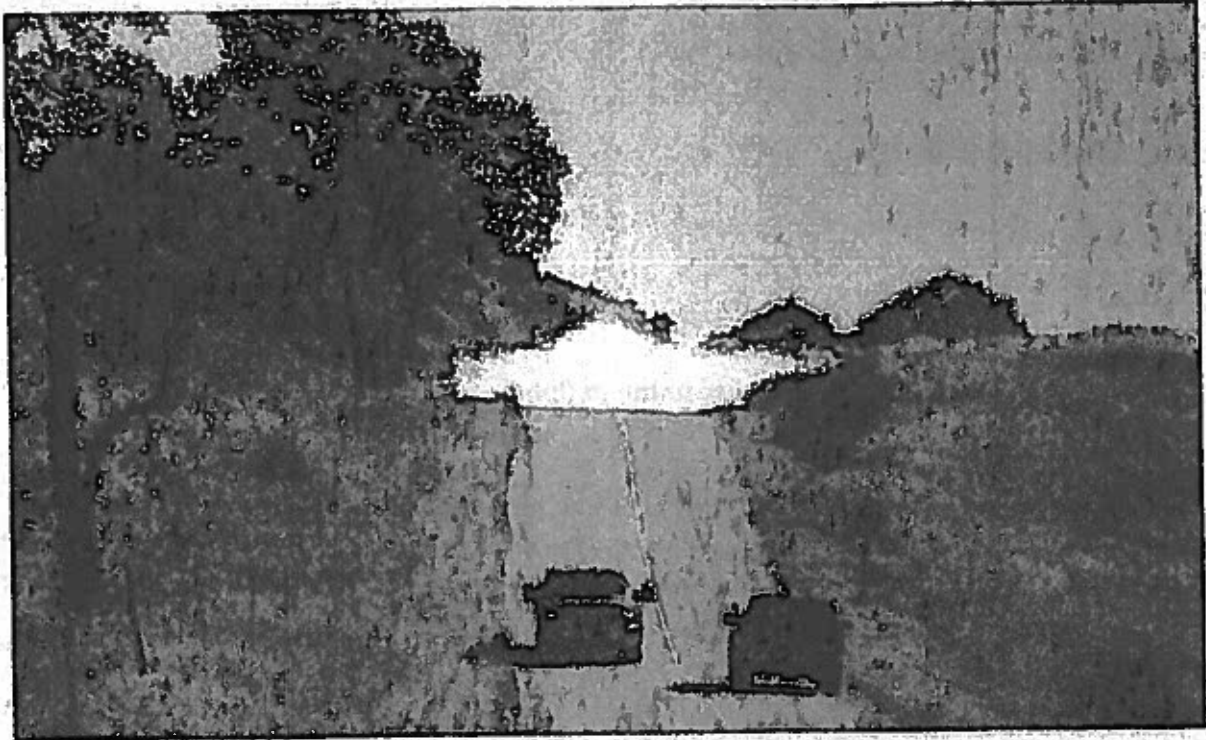
I think the issue is best summed up by one Bohne Road resident in a letter to the Township, urging them not to renew the mine permit:

"The residents need to be able to open their windows, sit outside, children need to play outside, they need sleep, they need peace and quiet, most importantly, they need to breathe, be healthy, and they need to smile and dream again."

*A. McRoy*









[Home](#) → [Medical Encyclopedia](#) → Silicosis

URL of this page: //medlineplus.gov/ency/article/000134.htm

## Silicosis

Silicosis is a lung disease caused by breathing in (inhaling) silica dust.

### Causes

Silica is a common, naturally-occurring crystal. It is found in most rock beds. Silica dust forms during mining, quarrying, tunneling, and working with certain metal ores. Silica is a main part of sand, so glass workers and sand-blasters are also exposed to silica.

Three types of silicosis occur:

- Chronic silicosis, which results from long-term exposure (more than 20 years) to low amounts of silica dust. The silica dust causes swelling in the lungs and chest lymph nodes. This disease may cause people to have trouble breathing. This is the most common form of silicosis.
- Accelerated silicosis, which occurs after exposure to larger amounts of silica over a shorter period of time (5 to 15 years). Swelling in the lungs and symptoms occur faster than in simple silicosis.
- Acute silicosis, which results from short-term exposure to very large amounts of silica. The lungs become very inflamed and can fill with fluid, causing severe shortness of breath and a low blood oxygen level.

People who work in jobs where they are exposed to silica dust are at risk. These jobs include:

- Abrasives manufacturing
- Glass manufacturing
- Mining
- Quarrying
- Road and building construction



- Sand blasting
- Stone cutting

Intense exposure to silica can cause disease within a year. But it usually takes at least 10 to 15 years of exposure before symptoms occur. Silicosis has become less common since the Occupational Safety and Health Administration (OSHA) created regulations requiring the use of protective equipment, which limits the amount of silica dust workers inhale.

## Symptoms

Symptoms include:

- Cough
- Shortness of breath
- Weight loss

## Exams and Tests

Your health care provider will take a medical history. You'll be asked about your jobs (past and present), hobbies, and other activities that may have exposed you to silica. The provider will also do a physical exam.

Tests to confirm the diagnosis and rule out similar diseases include:

- Chest x-ray
- Chest CT scan
- Pulmonary function tests
- Tests for tuberculosis (TB)
- Blood tests for connective tissue diseases

## Treatment

There is no specific treatment for silicosis. Removing the source of silica exposure is important to prevent the disease from getting worse. Supportive treatment includes cough medicine, bronchodilators, and oxygen if needed. Antibiotics are prescribed for respiratory infections as needed.

Treatment also includes limiting exposure to irritants and quitting smoking.

People with silicosis are at high risk for developing TB. Silica is believed to interfere with the

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body's immune response to the bacteria that cause TB. Skin tests to check for exposure to TB should be done regularly. Those with a positive skin test should be treated with anti-TB drugs. Any change in the appearance of the chest x-ray may be a sign of TB.

People with severe silicosis may need to have a lung transplant.

## **Support Groups**

Joining a support group where you can meet other people with silicosis or related diseases can help you understand your disease and adapt to its treatments.

## **Outlook (Prognosis)**

Outcome varies, depending on the amount of damage to the lungs.

## **Possible Complications**

Silicosis can lead to the following health problems:

- Connective tissue disease, including rheumatoid arthritis, scleroderma (also called progressive systemic sclerosis), and systemic lupus erythematosus
- Lung cancer
- Progressive massive fibrosis
- Respiratory failure
- Tuberculosis

## **When to Contact a Medical Professional**

Call your provider if you suspect that you have been exposed to silica at work and you have breathing problems. Having silicosis makes it easier for you to develop lung infections. Talk to your provider about getting the flu and pneumonia vaccines.

If you've been diagnosed with silicosis, call your provider right away if you develop a cough, shortness of breath, fever, or other signs of a lung infection, especially if you think you have the flu. Since your lungs are already damaged, it's very important to have the infection treated promptly. This will prevent breathing problems from becoming severe, as well as further damage to your lungs.

## **Prevention**

If you work in a high-risk occupation or have a high-risk hobby, always wear a dust mask and do not smoke. You might also want to use other protection recommended by OSHA, such as a

respirator.

## Alternative Names

Acute silicosis; Chronic silicosis; Accelerated silicosis; Progressive massive fibrosis; Conglomerate silicosis; Silicoproteinosis

## References

Go LHT, Cohen RA. Pneumoconioses. In: Broaddus VC, Ernst JD, King TE, et al, eds. *Murray and Nadel's Textbook of Respiratory Medicine*. 7th ed. Philadelphia, PA: Elsevier; 2022:chap 101.

Tarlo SM. Occupational lung disease. In: Goldman L, Schafer AI, eds. *Goldman-Cecil Medicine*. 26th ed. Philadelphia, PA: Elsevier; 2020:chap 87.

## Review Date 5/30/2021

Updated by: Denis Hadjilidis, MD, MHS, Paul F. Harron, Jr. Associate Professor of Medicine, Pulmonary, Allergy, and Critical Care, Perelman School of Medicine, University of Pennsylvania, Philadelphia, PA. Also reviewed by David Zieve, MD, MHA, Medical Director, Brenda Conaway, Editorial Director, and the A.D.A.M. Editorial team

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National Institutes of Health

**From:** [Blankenship, Johni](#)  
**To:** [Warner, Avery](#)  
**Subject:** FW: <EXTERNAL-SENDER>Amendments to Material Site Ordinance  
**Date:** Tuesday, September 6, 2022 9:03:27 AM  
**Attachments:** [Bilben Amendments \(dragged\) 2.pdf](#)  
[Definitions Amendment 96.pdf](#)  
[Decision.pdf](#)  
[Standards Amendment.pdf](#)  
[Delete Effect of Denial.pdf](#)  
[type of CLUP Amendment 96.pdf](#)  
[Tsunami Zone Amendment.pdf](#)  
[Buffer Zone Amendments 06.pdf](#)  
[Conditions Amendments 96.pdf](#)

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## Public comment

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**From:** Hans Bilben <catchalaska@alaska.net>  
**Sent:** Monday, September 5, 2022 8:18 PM  
**To:** Blankenship, Johni <JBlankenship@kpb.us>  
**Subject:** <EXTERNAL-SENDER>Amendments to Material Site Ordinance

CAUTION:This email originated from outside of the KPB system. Please use caution when responding or providing information. Do not click on links or open attachments unless you recognize the sender, know the content is safe and were expecting the communication.

Hi Johni,

Please forward these amendments to assembly members, legal, and planning director. Also, please plan to project attachments in sequence to the screen as I am speaking to the Committee of the Whole tomorrow. Let me know if there is any technical issues in doing that, and I will try to adjust accordingly..

Thanks,

Hans Bilben

## **Does Visual Impact really matter??**





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## **21.29.050 (A)(1) Buffer Zone (5 amendments)**

**1st amendment is to replace (1)(a) with:**

a. The buffer zone for counter permits and CLUPs shall be of sufficient height, density, and setback to provide visual and noise screening of the proposed use to parcels in the vicinity as deemed appropriate by the planning commission or planning director (as applicable). Buffer requirements shall be made in consideration of and in accordance with existing uses of properties in the vicinity at the time of approval of the permit. There is no requirement to buffer the material site from uses which commence after the approval of the permit.

**2nd amendment would replace 21.29.050(A)(1)(b)  
Existing (b) becomes (c) etc.**

b. A buffer zone shall be established between the area of excavation and the parcel boundaries. The buffer zone for a Counter Permit and a Type 1 CLUP shall consist of one or any combination of the following: Fifty feet of natural vegetation, a minimum six-foot fence, a minimum six-foot earthen berm with a minimum 2/1 slope. The buffer zone for a Type 2 or a Type 3 CLUP shall consist of the following: Minimum

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eight-foot fence, or fifty feet of natural vegetation and a minimum ten-foot earthen berm with a minimum 2/1 slope.

**3rd** amendment would change wording in existing 21.29.050(A)(1)(d) (now e.) to:

e. This requirement may [ONLY] be waived upon a finding by the planning director or planning commission, as applicable, that a lot line where the waiver is requested is [DIRECTLY ADJACENT TO] adjoining another material site or industrial use.

**4th** amendment is to add a new paragraph 21.29.050A)(1)(f).

f. Geographic Information System (GIS), Photogrammetry, and LIDAR technology may be utilized in the design of the buffer zone when differing elevations exist between the proposed site and properties in the vicinity. Using this technology, line of sight profile drawings from the uppermost inhabitable level of existing properties located in the vicinity may be utilized in the determination of sufficiency of the buffer zone.

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**5th** amendment is to add another new paragraph to 21.29.050(A)(1)(g).

g. At its discretion the planning director or planning commission, as applicable, may waive or reduce buffer requirements when screening proves to be not necessary or not feasible.

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## Four amendments to amend 21.29.050. Permit Conditions

### 1st – Deleting Discretionary Conditions 21.29.050(B)(1)(a).

If GIS and LIDAR technology is utilized the buffer zone will be defined under (A)(1). Setting a maximum of 100 feet would deny protections laid out in Standards in some cases. One size does not fit all!!

\*\*\*Justification for this amendment is that if the buffer zone is designed correctly by using evidence and technology there is no need for this discretionary condition. The tools, and the discretion, for the correct design are spelled out in amendments which I have written to the buffer zone language.

### 2nd – Amend 21.29.050(B)(1)(i) to read:

i. Upon request of the applicant [IN LIEU OF ANY ADDITIONAL BUFFER AREA THIS SUBSECTION DESIGNED TO SEPARATE THE USE OF MATERIAL SITE ACTIVITIES FROM NEIGHBORING PARCEL BOUNDARIES, AN EIGHT-FOOT-BERM ABOVE THE PREEXISTING ELEVATION MAY BE CONSTRUCTED PRIOR TO EXCAVATION, AROUND THE EXCAVATION AREA.] an earthen berm with a minimum 2:1 slope of the height determined by the planning commission under KPB 21.29.050 shall be constructed above preexisting elevation around the excavation area. If the excavation site area expands, the berm may move toward [THE PERMITTED BOUNDARY] negatively impacted properties in the vicinity

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until such limits of the permitted area are exhausted. The berm must be maintained at [EIGHT-FOOT HEIGHT] the predetermined height while permitted activity is occurring. This earthen berm may be in addition to other buffer zone conditions imposed by the planning commission, or required by KPB 21.29.050.

**3rd** — **21.29.050(B)(6)** should be deleted. If enacted, only borough residents living at street level or below will be protected from visual, noise, and dust impacts.

**4th** — Amend **21.29.050(2) Discretionary Conditions** to add:

6. *Noise suppression.* At the discretion of the planning commission or planning director (as applicable) multi frequency (white noise) back-up alarms may be required on all equipment and vehicular traffic on site as a condition to help meet the noise impact standard in accordance with and in consideration of existing uses in the vicinity.

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Amendment to add new section **KPB 21.29.063. Decision.**

**21.29.063. Decision.**

The planning commission or planning director, as applicable, shall approve permit applications whereby mandatory standards under KPB 21.29.040 have been met through implementation of conditions as set forth in KPB 21.29.050, or shall disapprove applications when the conditions do not meet the mandatory standards in KPB 21.29.040. The decision shall include written findings detailing how the conditions under KPB 21.29.050 meet, or do not meet the mandatory standards set forth in KPB 21.29.040 and evidence to support those findings. The decision shall be distributed to the parties of record before the planning commission, with a notice of right to appeal.

\*\*\* Justification is to give the Planning Commission and the Planning Director direction as they approve, modify, or disapprove an application based upon its compliance with the requirements of the ordinance as currently spelled out in KPB 21.25.050(B). This new paragraph is based upon “**21.29.055. Decision**” as taken from the material site working group document.

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Amending **21.29.130 Definitions** to add two items:

**1. Vicinity means 1,000 horizontal feet from the parcel boundary of the proposed earth materials site.**

\*\*\*Justification for this is that in the past the word “adjacent” was often used to determine the extent of protecting neighbors. An adjacent property might be as small as a quarter acre, in which case the property owners further out might be left without adequate protection. An adjacent property might be eighty acres which leaves the applicant at risk because of the planning commission’s interpretation of the ordinance. By having a stated distance it protects both the applicant, and neighboring property owners. The material site working group defined “vicinity” as the notification area meaning 1/2 mile or 2,640 feet. This is a compromise distance.

**2. Earthen Berm means a berm constructed above the preexisting elevation, consisting of topsoil or aggregate, suitable for revegetation, not to contain more than 10% organic material, and maintaining a 2:1 slope on both sides.**

\*\*\*Justification for this is to aid the compliance officer in determining if berms are constructed in a fashion that will meet the standards. A pile of brush with a couple inches of dirt on top is not an adequate protection for properties in the vicinity. A properly constructed berm could provide sufficient noise, visual, and some dust screening for the duration of the project, plus it would aid in the reclamation process.

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Section **21.29.065 Effect of permit denial** amended by **DELETION** of entire section.

\*\*\*Justification: There is currently a process in place that allows either party to **appeal** a decision that they feel is unjust. This process may proceed all the way to the Alaska Supreme Court and the final decision rendered, whether it is approval or denial of a permit, should be adhered to. To subject neighboring property owners and KPB to the costs, both in dollars and time spent on a first appeal, only to restart the cycle again in one year or less is ludicrous. In the 16 year history of the current ordinance there has never been a denial that stood up on appeal—**ZERO**—so just who is this written for? Certainly not for the benefit of the vast majority of Borough residents!

Including this section in the ordinance undermines the credibility of the planning commission, the planning director, the entire appeal process, and is the ultimate slap in the face to the residents of this borough who may have successfully (and legally) defended their neighborhood as spelled out in the ordinance.

If the Assembly really thinks that a reapplication is warranted, then the rule for denial should be the same as the rule for approval. If approved a counter permit is good for two years and a CLUP for five years. If denied a counter permit reapplication should not be allowed for two years, and for a CLUP no reapplication for five years. Any reapplication even then should only be allowed if the applicant can prove that new evidence or circumstances exist that were not available or present with the first application.

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Amend **21.29.040 Standards for sand , gravel, or material sites.** Two amendments:

**1st—** In **21.29.040(A)** rewrite (A) to include visual impact and to delete reference to street-level screening.

A. These material site regulations are intended to protect against aquifer disturbance, road damage, physical damage to adjacent properties, dust, noise, visual, and other impacts of earth materials extraction to properties in the vicinity through setbacks and buffer zones. Prior to granting a counter permit or a conditional land use permit under this chapter, the planning director or planning commission, as applicable, must make the following findings:

\*\*\* Justification would be that by only requiring street level visual screening this ordinance will eliminate protections for a segment of the borough population—again going back to the one-size-fits-all model that didn't work in the past.

**2nd—** Include the omitted MatSu standard #2 into **21.29.040.**

2. That the use will preserve the value, spirit, character, and integrity of the surrounding area;

\*\*\* Justification is that this standard (currently in the MarSu ordinance) helps to define just where a material site should and/or should not be located. It is critical if the ordinance is really meant to comply with the Comprehensive Plan.

---

Amend **21.29.050(A)(2) Permit Conditions applicable to all permits** to read:

**2. Water source separation.** (New paragraph after letter c.)

**d. All permits shall be issued with a condition which prohibits any material extraction within 500 linear feet of any existing private well or water source when located within the boundaries of a mapped tsunami hazard zone**

\*\*\*Justification is to include mapped tsunami Hazard Zones as defined by Alaska DNR, in partnership with the Alaska Earthquake Center and the Alaska Division of Homeland Security and Emergency Management. There are seven such zones in the Kenai Borough. Any excavation in a tsunami hazard zone demands scrutiny because of the potential to turn a material site into a saltwater lake thereby contaminating any wells or water sources in that zone.



**1st** Amend **21.29.020(A)** **Types of permits available** to return Counter permit to current 2.5 acre size, and to retain new language concerning two year time period with one 12 month extension.

\*\*\*Justification: To allow a material site greater than 2.5 acres that would have multiple negative impacts to properties in the vicinity without any prior public input is a great disservice to the residents of the borough and not in accordance with the Comprehensive Plan.

**2nd** Amend **21.29.020(B)(1)(2)(3)** to read:  
Type 1 CLUP. Type 2 CLUP. Type 3 CLUP.

\*\*\*\*Justification: Makes for cleaner reference in remainder of ordinance.

**3rd** Amend **21.29.020(B)(1)** to read:

1. Type 1 CLUP. Earth Materials Extraction with Restricted Processing CLUP. An Earth Materials Extraction with Restricted Processing CLUP is required for any material extraction which disturbs 2.5 or more cumulative acres. Processing is restricted to one portable two deck screen capable of screening or classifying material, limited to a maximum of 500 cubic yards per day. Extraction within four feet of the seasonal high-water table is prohibited under this permit. The conditions set out in KPB 21.29.050 and .055 are applicable to this type of CLUP.

**4th** Amend **21.29.020(B)(2)** to add language dealing with water-table separation.

2. ...or crushing activities. Extraction or processing within four feet of the seasonal high-water table is prohibited under this permit. The conditions set forth....

**5th** Amend the The Type 3 CLUP **21.29.020(B)(3) (Earth Materials Extraction within Water Table)** to include processing in its language. Why wouldn't it??????

**From:** [Blankenship, John](#)  
**To:** [Warner, Avery](#)  
**Subject:** FW: New Public Comment to Assembly Members  
**Date:** Tuesday, September 6, 2022 6:10:37 PM

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**From:** Kenai Peninsula Borough <[webmaster@borough.kenai.ak.us](mailto:webmaster@borough.kenai.ak.us)>  
**Sent:** Tuesday, September 6, 2022 5:46 PM  
**To:** BoroughAssembly <[Borough-Assembly@kpb.us](mailto:Borough-Assembly@kpb.us)>; Mayor's Department <[MayorDepartmental@kpb.us](mailto:MayorDepartmental@kpb.us)>  
**Subject:** New Public Comment to Assembly Members

**Your Name:** Elena Staab

**Your Email:** [Elena-joy@hotmail.com](mailto:Elena-joy@hotmail.com)

**Subject:** Ordinance 2022-36

**Message:**

To the KPB Assembly:

This is to show my support for Ordinance 2022-36. As a property owner that is adjacent to 2 gravel pits that have grandfather rights (Kobuk & Big Eddy/Spruce St. and Greenridge St & Joplin), I am acutely affected by their unregulated operations. I have experienced flooding multiple times in the last 10 years due to their uncontrolled release of water and the absence of ditches and driveway culverts on my road. I live on Greenridge Street.

After reviewing the ordinance, I noticed the lack of a contingency plan for catastrophic failure of their coffer dams. This is my biggest fear, that a wall of water from those dams will make my home unlivable and render me homeless. I have flood insurance, but that only covers flooding from the river in an "act of god" happenstance.

When these gravel pits were granted grandfather rights this was a rural area, only 3 people homesteading. The current and coming population density calls for re-evaluation and an SWPP at the very least. I have discussed these things with my neighbors and we are all in agreement with your ordinance, plus upgrades to our road for flood management are necessary. I appreciate your time and consideration.

Sincerely,  
Elena J. Staab

Kenai Peninsula Borough Assembly  
144 N. Binkley Street,  
Soldotna, Alaska 99669

Re: Comments Regarding Proposed KPB Ordinance 2022-36

Dear Assembly Members:

We are writing to you regarding the new proposed Ordinance 2022-36, amending KPB Chapter 21.25 and Chapter 21.29. There are certain truths related to gravel pits:

- 1) No one really wants one as a neighbor
- 2) They are for the most part noisy and dusty
- 3) They have a negative visual impact to surrounding homes and neighborhoods
- 4) We all need gravel and sand for our lives we enjoy on the Peninsula
- 5) We all want our families and children to be safe from gravel pit operations
- 6) We all know, to be safe, we need reasonable Borough regulations that protect both the public welfare while helping the gravel industry sustain their businesses.
- 7) We all want gravel and sand at a fair price

The key takeaway from these truths is, "reasonable Borough regulations" for gravel pit operations.

The new proposed Ordinance 2022-36 does move us in the right direction, however, some of the above truths we can agree on have been overlooked or not given the weight they should have.

For example, 21.29.015 (C) now allows a Counter Permit to be 10 acres. A square 10 acre gravel pit would be about 14, 150 foot square residential lots. By any standard, this would be a huge gravel pit. It should be left at 2.5 acres. This new regulation also strips out any public safeguards from all the concerns listed in 1) thru 3) above. Delete this amended version and add back the current language under 21.29.020 (B). But add that Counter Permits must meet public notice requirements of 21.25.060. Also, delete exception given to public notice for Counter Permits under this section.

---

The public should have the right to examine any proposed gravel pit in their area and be able to discuss it with the Planning Commission.

In the new regs 21.29.040 "Standards for sand, gravel, or material sites", the new amendment is striped of any meaningful language that would allow the Planning Commission to exert their authority in denying a gravel permit. In fact, under this section, and others similar, the Planning Commission will almost have to approve any and all gravel pit applications. The new amendment as written, fails to address most of the above truths we all share about the need for the public's protections from gravel pit operations. The current, existing section of 21.29.040 in its entirety should be left in place as written.

Regarding item 3) above, about visual impact, the amendment 21.29.040 has set the limit of visual impact to only "street-level visual screening". This restriction of the height of screening to protect properties surrounding a proposed gravel pit does not take into account screening for two story homes, much less, homes on a hill side above a proposed gravel pit. Delete "street-level screening" from this section. And, address visual screening by adding back the current standards in the existing regulations under 21.29.040 (A) (1 thru 6).

Under item. 2) above, regarding dust from gravel pit operations, Eileen Sheridan will be offering an Amendment to 21.29.040 related to dust from quartz and silica that is found in all types of rock and sand mined on the Kenai Peninsula. I took a shovelful of gravel that came from a known gravel pit source in Anchor Point and found it laced with minute particles of silica. The winds pick up the fine silica particles from gravel pit operations and they are blown into surrounding areas. Silica is a known cause of silicosis, respiratory illnesses, cancer and death for humans if breathed in for long periods of time. I urge you all to listen to Eileen's presentation and take time to read the material she's gathered on this important subject. Please pay particular attention to the table on Page 3 of "Crystalline Silica Dust-The Invisible Killer" section. It shows that small silica dust, small enough to enter our immune system can travel 4.5 miles in a 6.2 mph wind. Most gravel people don't seem to understand the long term effects of working around gravel operations and fail to take any precautions themselves. OSHA has issued strong warnings and advisories for people who work around silica dust. Its time we take notice too, and adjust our materials regulations to protect our residents and the public.



There's much more that needs to be addressed in the proposed amendments and we hope to have another chance to do so. This is a big deal for not only the residents and public but very important for our gravel producing neighbors on the Peninsula as well. So, we hope you will take time to weigh all the pros and cons carefully to arrive at fair and workable regulations for us all.

Lastly, we want to encourage you to carefully review and act on Hans Bilben's amendments he has submitted. Hans is a very honest, fair-minded man. He has been working closely with Ed Martin, one of the gravel interest leaders to try to work out language in the proposed new amendments that would work for all of us, both residents and the public, and the folks with gravel interests. We support Mr. Bilben's amendments.

Thank you for considering our views.

Gary and Eileen Sheridan

PO Box 661,  
Anchor Point, Alaska 99556

KPB Ord. 2022-36



**From:** [Blankenship, Johni](#)  
**To:** [Warner, Avery](#)  
**Subject:** FW: <EXTERNAL-SENDER>Cline response - Kenai Peninsula Borough Ordinance 2022-36  
**Date:** Monday, September 12, 2022 5:00:09 PM

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## Public comment on Material Site Ordinance

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**From:** Ann Cline <anndotcalm@gmail.com>  
**Sent:** Monday, September 12, 2022 4:48 PM  
**To:** Blankenship, Johni <JBlankenship@kpb.us>  
**Cc:** Hans and Jeanne Bilben <Catchalaska@alaska.net>  
**Subject:** <EXTERNAL-SENDER>Cline response - Kenai Peninsula Borough Ordinance 2022-36

CAUTION: This email originated from outside of the KPB system. Please use caution when responding or providing information. Do not click on links or open attachments unless you recognize the sender, know the content is safe and were expecting the communication.

Good afternoon,

At last week's KPB Assembly meeting, the ordinance regarding CLUPs was discussed. After I spoke at the meeting, I gave my name and phone number to you and several of the Assembly to offer my assistance in the ordinance's revision. Johni, please forward this to all Assembly members and Planning Department.

I have several clarifying points which hopefully will result in a clear, easy to follow document to assist landowners and the public regarding land use and material site permits with protections. I am using the amended Ordinance 2022-36 with the new text. Please let me know if I may be of further assistance.

[1]. I was unable to locate where the ordinance stipulates how many acres can be permitted per parcel. What is to prevent a landowner from having 1 acre permitted, another acre permitted a year later, another acre permitted the following year, and so on till he/she has excavated all the acres they would like? Should the ordinance stipulate 1 acre **per parcel**? If the Borough allows short platting, then that's another loophole that needs to be addressed. Otherwise, a landowner could shortplatt his/her parcel into 1 acre parcels and permit them individually.

[2] I don't see the necessity of KPB offering a Counter Permit. It seems to me that a CLUP is sufficient. I didn't see any difference in the 21.29.020 A. Counter Permit description. What am I missing?

[3]. Under 21.29.020 B. Conditional Land Use Permit, 1. states "an Earth Materials Extraction CLUP is required for any material extraction which disturbs 10 or more cumulative acres." My Anchor Point neighbors and I respectfully exhort you to replace the number 10 with 1 to read:

"an Earth Materials Extraction CLUP is required for any material extraction which disturbs more than 1 acre."

[4] I was unable to find the requirements of a public hearing for any CLUP request in excess of 1 acre. A public hearing is very important to ensure that affected Kenai Peninsula Borough residents have an

opportunity to inform planners and stakeholders of concerns regarding health, safety, and welfare of the surrounding residents, tourists, and business owners.

[5] Regarding 21.29.030. Application procedure A:

Delete “a counter permit or” if you determine that only a CLUP is sufficient.

[6] Regarding 21.29.040. A:

Delete “street level” and replace with “visual screening from all affected surrounding areas within 1/2 mile.”

[7] Regarding 21.29.060 - Reclamation plan:

Asking for a bonding requirement of \$750 per acre for reclamation is completely unrealistic. Just to bring in the equipment necessary to do the work far exceeds that price! I suggest you speak with local excavators to obtain an accurate bid on the actual cost to reclaim property and proceed. Remember that unscrupulous landowners will do the least of your demands so you must be diligent and realistic with your legal requirements.

[8] Regarding 21.29.065 A:

A can be deleted if you decide to remove counter permits from the ordinance.

The most important aspect to any ordinance is whether or not it will be enforced. If there are no real consequences for disobedience, then the ordinance is moot. If you are concerned that the KPB planners will have a difficult time bringing landowners into legal compliance with ordinances, then it's imperative that you change your wording from “may” to “must” in your ordinance.

Part of the KPB Planning and Assembly personnel job descriptions should include making a physical visit to the locations of the permits under review. For example, our Anchor Point neighbors have no doubt that if the Assembly and borough Planners had come to our neighborhood to witness for themselves, our lawsuit would have been unnecessary. The Beachcombers LLC gravel pit was/is in full view of, and carcinogenic dust exposure to, our surrounding hillside homes.

As I expressed at the open KPB meeting last week, I believe we all need to be able to sleep each night knowing that we have been honorable and have made righteous decisions not only for our neighbors, businesses, and ourselves but also for **posterity**. We will become dust, but our actions should carry lasting goodness to those we leave behind.

Respectfully,

Ann Cline  
34926 Danver  
PO Box 121  
Anchor Point, AK. 99556  
(425) 449-3540

## Warner, Avery

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**From:** Blankenship, Johni  
**Sent:** Monday, October 3, 2022 9:55 AM  
**To:** Warner, Avery  
**Cc:** Turner, Michele  
**Subject:** FW: <EXTERNAL-SENDER>Gravel pits- to be forwarded, thanks

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**From:** laura sievert <laurasievert@hotmail.com>  
**Sent:** Monday, September 26, 2022 8:03 PM  
**To:** G\_Notify\_AssemblyClerk <G\_Notify\_AssemblyClerk@kpb.us>  
**Subject:** <EXTERNAL-SENDER>Gravel pits- to be forwarded, thanks

CAUTION:This email originated from outside of the KPB system. Please use caution when responding or providing information. Do not click on links or open attachments unless you recognize the sender, know the content is safe and were expecting the communication.

To the Borough Assembly:

I admit that I haven't been keeping up on Assembly progress on regulating gravel pits.

Listening to Nikiski candidates on the KDLL assembly candidate forum tonight, I gather that most residents have concerns about gravel pits because of the normal nuisances and lowering of adjacent property values, which I agree are problems. However, my primary concern (my property value is forever lowered) is the way that gravel pit operators are trusted to run their pits after they have been approved. The two operators that surround my property - Great Northern and QAP- have bulldozed a salmon stream, stacked up old asphalt on shorelines, dumped derelict machinery, run a batch plant without a permit, and otherwise ignored what is allowed by the Borough.

Below, find my previous letter. I still have the same concerns, which are not being addressed when you only look at residents' common concerns like dust, jake brakes, and unsightly views. My concerns are violations that have repercussions that will last decades and beyond. I am not asking you to address my two gravel pit problems- since it's too late- only that you consider the future.

Thank you - Laura Sievert

I live on Beaver Loop, home to several gravel pits. We live between the Quality Asphalt Pit and the Great Northern pit. Both were old gravel pits that came back into production for the Spur Highway project.

As part of your discussion going forward, I beg you to consider two things: first, how to enforce the rules that pit operators are required to follow, new rules as well as those already in effect such as the Anadromous Stream Ordinance. Also, what is to be the relationship between city and Borough regulations regarding gravel pits? Apparently the regulations vary.

Our experience with Quality Asphalt & Paving in 2020 is an example of what can go wrong. Since 2020 we have tried to get the Borough and the City of Kenai to fix QAP's violation of the Anadromous Stream Ordinance in a stream that originates on our property and then runs through their gravel pit and into the Kenai River.

Just prior to the violation, we had been working with a former Borough biologist who studied our property and made some suggestions as to how we might enhance the coho run up our stream. This was part of a project he was working on to help property owners enhance privately owned habitat.



While extracting gravel for the Spur highway project, QAP bulldozed the stream on their property, cut all trees and vegetation along the bank, built two roads over the stream, and installed two culverts. I found out later that the City of Kenai knew of this plan and approved it. This was apparently due to a difference between City and Borough regulations.

I objected- after the fact- but the repercussions were slight. QAP denied knowing it was an anadromous stream despite having installed an expensive fish culvert on that very stream a couple of hundred yards downstream, under Beaver Loop road.

The biologist who had been helping us negotiated two ways that QAP could begin to make up for damaging the stream: planting trees (which they did- maybe 20 alders, which in our lifetimes will not shade the stream), and removing an old culvert further upstream on their property. Too little, too late. Photo of clear cut stream:



There's more. QAP dumped broken-up used approach asphalt in their pit, near the stream- I believe it is still there. They installed a batch plant in the gravel pit (gone now). There was no permitting or public hearing for that plant. On the other side of our property, Great Northern pushed dirt into the pond (right at our property line) that is the origin of the anadromous stream I refer to. Photo of asphalt dumped in the QAP pit:



Rules and regulations are good, but please consider if and how they will be enforced.

No one is watching these pits. We got the Kenai City planner out a couple of times, first on Day One, when QAP clear-cut the 200 foot buffer zones around the pit, a violation of their conditional use permit. No repercussions- the trees are gone, nothing to be done.

I could go on. I can send more photos. How will you make sure pit operators follow the rules? How do they make amends when they violate the rules? Perhaps by posting large bonds? No one can stand out there and monitor them, and the damage can happen really fast. The cutting of the buffer took a few hours. And money doesn't bring back our streams, salmon or buffer zones.

Thanks for your work on this. We need gravel, but I hope you can balance that need with a consideration for the long term health of our water, people, land and wildlife.

Laura Sievert  
3329 Beaver Loop, Kenai

**From:** Blankenship, Johni  
**Sent:** Thursday, October 6, 2022 8:47 AM  
**To:** Warner, Avery  
**Subject:** FW: <EXTERNAL-SENDER>gravel pit

Public comment on O2022-36

-----Original Message-----

From: Supercub Inalaska <sw69313@yahoo.com>  
Sent: Wednesday, October 5, 2022 4:56 PM  
To: G\_Notify\_AssemblyClerk <G\_Notify\_AssemblyClerk@kpb.us>  
Subject: <EXTERNAL-SENDER>gravel pit

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Hello,  
I just spoke with Ryan Raidmae on the phone.  
This email is how i am showing support  
FOR  
the proposed code rewrite of the conditional land use dewatered bar material site permits.

I live within 1/2 mile of several pits in seldovia alaska

i may be reached

loren rhyeer  
2837 glacier street  
anc ak 99508 in the winter.

907-227-8480  
for comment or confirmation.

thank you

loren

---

**From:** Blankenship, Johni  
**Sent:** Monday, October 10, 2022 2:06 PM  
**To:** Warner, Avery  
**Subject:** FW: <EXTERNAL-SENDER>Public Comment - Conditional Land Use Permits, Material Site Permits and Fees regarding applications, conditions, and Procedures

Ordinance 2022-36 public comment

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**From:** Greg Barclay <gbearclaw52@gmail.com>  
**Sent:** Sunday, October 9, 2022 6:21 PM  
**To:** G\_Notify\_AssemblyClerk <G\_Notify\_AssemblyClerk@kpb.us>  
**Subject:** <EXTERNAL-SENDER>Public Comment - Conditional Land Use Permits, Material Site Permits and Fees regarding applications, conditions, and Procedures

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Dear Madam Clerk,

We are not opposed to gravel pits as we realize they are part of building construction and keeping roads safe. We live in Lakewood Subdivision, at Mile 86 of the Sterling Hwy, across the road from an active gravel pit and do notice a lot more noise from the equipment and material being moved in the summer season. Would more pavement close to intersections help or some type of dust treatment applied on the access road?

There is quite an increase in dust in the area, our yards and houses during the construction season from the gravel pit. Is it possible for some type of dust prevention such as water application in certain gravel pit activities?

We like to see our community to be safe and also grow.

Thank you,

Greg and Linda Barclay  
38403 Breezewood Dr.  
Sterling, AK 99672  
907-262-1400

**From:** [Blankenship, Johni](#)  
**To:** [Warner, Avery](#)  
**Subject:** FW: <EXTERNAL-SENDER>material assembly site meeting, to be held October 25th, 2022  
**Date:** Tuesday, October 11, 2022 12:19:47 PM

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**From:** patricia gross <plgross293@gmail.com>  
**Sent:** Tuesday, October 11, 2022 12:14 PM  
**To:** G\_Notify\_AssemblyClerk <G\_Notify\_AssemblyClerk@kpb.us>  
**Subject:** <EXTERNAL-SENDER>material assembly site meeting, to be held October 25th, 2022

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To whom this concerns;

I am a resident close to a conditional land use area. I am against you renewing their permit, because they have to drive thru a residential area. The roads are maintained by the subdivision residents, in order to get to the main road, or go partway down the subdivision road onto a state road which the heavy trucks tear up too, then to the main road. There are several small children that play in or close to the road in the neighborhood. Thank You .

Pat Gross



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**From:** Blankenship, Johni  
**Sent:** Tuesday, October 11, 2022 12:24 PM  
**To:** Warner, Avery  
**Subject:** FW: <EXTERNAL-SENDER>Public Hearing 10/25/22

**From:** D Garske <ddgarske@gmail.com>  
**Sent:** Tuesday, October 11, 2022 12:24 PM  
**To:** G\_Notify\_AssemblyClerk <G\_Notify\_AssemblyClerk@kpb.us>  
**Subject:** <EXTERNAL-SENDER>Public Hearing 10/25/22

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Hi Johnny!

My husband and I can't make the scheduled KPB Material Site Assembly Meeting, so please consider this our written statement in regards to the gravel pits near our house:

We don't have any issues with gravel pits in general, however, when people think they can trespass and use them to sight in or practice shooting their pistols and/or rifles, especially late at night, we tend to bristle. Perhaps a security provision could be added to future permits. Must have locking gates, or something similar.

Thank you for your time,  
Diane & Hugh Garske