



Department of  
Environmental  
Conservation

# Summary and Responses to Public Comments Received

**GROUNDWATER STUDY AT LONG ISLAND MINES  
WORK PLAN**

June 2022

# INTRODUCTION

On December 15, 2020, the governor directed New York State Department of Environmental Conservation (DEC), in consultation with the New York State Department of Health (DOH), to study the potential for impacts to groundwater quality resulting from sand mining on Long Island.

The purpose of the study is to evaluate any impact of sand mining on Long Island on its groundwater quality. DEC proposes the collection of three years of groundwater data using a consistent methodology and analysis and evaluation of these data against baseline information in order to accomplish this goal. The study results and any findings will be summarized in a publicly available report at the end of the three-year study.

To support this effort, DEC held a public meeting on July 6, 2021, and four stakeholder meetings on June 15, 17, 21 and 25, 2021. During these meetings, DEC staff presented the proposed study and solicited feedback from the public and stakeholders. The presentation was made available on DEC's Mining on Long Island webpage (<https://www.dec.ny.gov/lands/123134.html>). On October 14, 2021, DEC made the draft Work Plan for the Groundwater Study at Long Island Mines available for public review and comment.

DEC has prepared this summary to address the comments and questions received during and after the public and stakeholder meetings and on the draft Work Plan for Groundwater Study at Long Island Mines ("Study").

The summary addresses comments and questions received, except for comments dealing with editorial or formatting changes. Comments are categorized into groups and frequently raised issues may have been summarized and presented as one set of comments. Comments received on certain topics, e.g., specific mines, processing of mining permits, or the Mined Land Reclamation Law, that were outside the scope of the Work Plan for the Study have been addressed at the end of the document.

A list showing the commenters is included at the end of the summary and responses to public comments received.

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# COMMENT TOPICS

## Statements

No.	Comment	Response
1	DEC received statements relating to mining on Long Island, mining in general, recent court cases, and the importance of the sole-source aquifer.	DEC acknowledges the statements received regarding the study and mining on Long Island and recognizes the importance of Long Island's sole source aquifer. If applicable, recommendations were included in the work plan.

## Study Goal

No.	Comment	Response
1	Is part of the goal of the study to provide recommendations for legislation?	The goal of this study is to determine whether sand mining is impacting water quality on Long Island. While legislative action is not identified as a primary goal of the study, if the results indicate a need for said action, it will be included in the recommendations.

## Financing

No.	Comment	Response
1	Can DEC finance this?	DEC is providing staff to undertake several aspects of the study. DEC's Division of Mineral Resources is funded through various sources depending on the type of activity performed. Oversight of the Mined Land Reclamation Program is funded by the Mined Land Account, which will also fund DEC staff activities related to the study.

## Liability

No.	Comment	Response
1	Do volunteer sites have a guarantee of being held harmless?	There will be no hold harmless clause in the agreement signed by mine operators for their participation in this study.

## Participating Mines

No.	Comment	Response	
1	Will study include Nassau County sites?	DEC Region 1 currently has 23 permitted mines that are subject to the jurisdiction of the Mined Land Reclamation Law, all within Suffolk County. There currently are no permitted mines in Nassau County.	
2	How many mines will be participating?	Participation in the study is voluntary at this time. While it is within DEC's authority to modify all mining permits on Long Island to require groundwater monitoring consistent with the study, the process would take several years to complete thus delaying collection of this important information. However, DEC will consider appropriate changes to Mined Land permit conditions regarding participation in the study as the study progresses. DEC anticipates that approximately six to ten mines will participate in the study. Participating mine sites will be required to perform the groundwater monitoring as outlined in the project scope of the updated Work Plan. Several mines are required by their mining permit to submit groundwater monitoring data to DEC on a quarterly or semi-annual basis. These requirements typically include sampling groundwater for analysis of various chemicals, such as volatile organic compounds (VOCs) and metals. While additional mines may collect groundwater data or have monitoring wells installed at the site to gather baseline conditions, these mines are not required to submit data to DEC by permit condition. For the purposes of this study, all participating mine sites will follow one consistent approach as specified by DEC and will analyze samples collected for a specified list of compounds of interest at the same frequency. DEC has selected the approach detailed in the Work Plan in order to conduct this study and identify any impacts to groundwater timely.	
3	Are any other mines contributing data in addition to the mines that work below the water table?		
4	Are the companies stepping up to participate in the study?		
5	Concerned that only good actors may participate in this study since it is voluntary.		
6	How many volunteers do we have so far for the study?		
7	Is our name on the list. We are willing to participate in the study.		
8	At the public meeting, it was mentioned that six sand mines had excavated into the water table. It would be appropriate for all six sites where groundwater is exposed to be a part of the Study.		
9	Participation in the study should not be voluntary. CCE is extremely concerned that "good actors" in the mining industry will volunteer to participate while "bad actors" will decline. Clearly, this will not produce a study that provides a valid conclusion. When I asked this question at a public forum, a DEC representative responded, "We don't think that will happen". Frankly, such predictive behavior is not borne out in real life circumstances. Participation in the study should be mandatory. If companies want to sand mine on LI, then we need to know if they are impacting the groundwater. DEC resistance to making this mandatory invalidates the study.		
10	A mandate that all sand mining facilities participate in the study.		
11	Do you think this study has a potential bias in that only the best actors will agree to participate in it?		
12	Did I hear correctly that the town of Brookhaven will not be participating in the study?		The Town of Brookhaven has not indicated that they would participate in the Study at this time.
13	Is the Town of Brookhaven participating?		
14	Alas, it seems that the Department has done nothing to account for that avoidable risk even while taking its time to commence and conduct the study directed by the now resigning Governor last December. In fact, its webpage "Mining on Long Island" discloses that, of the 23 currently active sand and gravel mines in Suffolk County (i.e., the only remaining mines on Long Island), "four mines are excavating below the water table, and two other mines are permitted for below water table mining operations. There are also pending permit applications to mine below the water table at existing permitted mine sites." This does not even include mines like Sand Land that do not presently mine below the water table but that extract more and more of the natural sand buffer that has protected the aquifer since the Ice Age.		The primary risk to groundwater associated with mining activities is a spill into the water. For this reason, DEC conditions mining permits to include a spill reporting requirement. During the pendency of this study, DEC will continue to review permit applications for renewals, modifications, and new mines and make determinations on permit issuance as required by applicable laws and regulations.

## Compounds of Interest

No.	Comment	Response
1	Will nitrates, RADS, emerging contaminants be looked at?	<p>Nitrates, per- and polyfluoroalkyl substances [PFAS] and 1,4-Dioxane are included in this study. Gross alpha (and beta) analysis does not provide information about specific radionuclides that cause radioactivity in groundwater, therefore, select radionuclides (Isotopic Uranium, Thorium, and Radium 226/228) are included in the study. DEC also proposes to test Target Analyte List (TAL) metals quarterly for the duration of the study for all participating sites. Appendix 4. "List of Compounds of Interest with Methods of Analysis and Specified Reporting Limits", in the updated Work Plan now posted on the website, details the list of compounds included in the study and Table 1 lists the corresponding sampling frequency.</p> <p>Note that the purpose of this study is significantly different from that of the Horseblock Road study. In the Horseblock Road study, water quality was examined in the vicinity of a large-scale vegetative organic waste management facility. Here, DEC will look at potential impacts from sand mining on groundwater quality. While mulching activities have occurred at mine sites, the scale and duration of these activities is likely different at a mine than at a large scale vegetative organic waste facility that was the focus of the Horseblock Road study. However, DEC will consider these activities in the analysis if a site has a history of mulching or other activities that could have impacted water quality.</p> <p>A wide variety of bacteria are naturally present in both surface and groundwater. Bacteria found in lakes are generally not considered a threat to groundwater.</p>
2	<p>The press release also noted that the "DEC is developing a list of contaminants potentially associated with mining activities that mines will test for ... this fall" (emphasis added). It would have been helpful to provide the public with additional information such as the chemicals already on the "list" and information such as testing frequency, detection levels, total number of samples and similar details.</p> <p>"Chlorides" were not mentioned. Perhaps specific conductance will be used as a substitute for chlorides testing. As for pesticides, will the DEC use the drinking water standards (MCLs) pesticide list or will it test for pesticides or herbicides that are in local use near the mining sites?</p> <p>As the DEC knows, most of the pesticides regulated by the Safe Drinking Water Act have not been used in decades and would probably not be a very helpful list to monitor for.</p> <p>The DEC did not identify "bacteria" as a contaminant on the list. Although groundwater tends to be bacteria-free in most parts of the aquifer system, when the groundwater has been exposed, the open water surface provides direct access for bacteria to be blown or otherwise deposited into the lake and then the groundwater.</p> <p>Other contaminants that do not appear to be included in the testing program are:</p> <ul style="list-style-type: none"> <li>• Iron</li> <li>• Ammonia</li> <li>• Gross Alpha</li> <li>• Manganese</li> </ul> <p>These contaminants have been previously identified at sand mining sites.</p> <p>There was no mention of other contaminants such as emerging contaminants that are, as yet, not regulated.</p>	
3	Testing should include gross alpha radiation and heavy metals such as manganese. Given the Horseblock Road Study findings that clearly indicate a relationship between elevated heavy metals concentrations (in particular manganese), gross alpha radiation and mulch, this groundwater study should include testing for heavy metals (including manganese) and gross alpha radiation. I am aware the DEC does not believe that mulching is going on at sand mines, but I have myself witnessed DEC inspectors view piles of mulch, ponds of water and large clouds of fugitive dust at a sand mine and then fill out the inspection report stating none of that was there. Testing for emerging contaminants such as PFAS and 1,4-dioxane should also be performed. What we don't know can hurt us. The testing for these contaminants could alert the DEC to uses of the sand mining site that are not permitted and have yet to be documented.	
4	Testing and sampling for the emerging contaminants PFAS and 1,4 Dioxane. These samples should be collected monthly during the first year of the study and quarterly thereafter.	
5	Will testing for heavy metals as was identified in the Horseblock Road study be done? Along with Alpha radiation.	
6	Full list of analytes of interest and methods to be used.	Appendix 4. "List of Compounds of Interest with Methods of Analysis and Specified Reporting Limits", in the updated Work Plan now posted on the website, details the list of compounds included in the Study, the required laboratory method and reporting limits.
7	What will be the reporting levels for the analytes of interest?	<p>To ensure protection of Long Island's sole source aquifer the results and recommendations provided at the conclusion of the study must be backed by data. DEC, will consider the quality of the data gathered, compare the data to available background data, review the data for any potential trends, and evaluate the potential impact of sand and gravel mining on groundwater quality. DEC will compare the upgradient and downgradient results and make recommendations for further action on a case-by-case basis. DEC may also recommend, additional confirmatory groundwater samples for PFAS.</p>
8	<p>The issue concerning emergent contaminants is due to the fact that these contaminants are clearly not due to mining, and PFAS, in particular, are ubiquitous in the environment. The issue arises from the high likelihood that PFAS will be detected at some of the mines. The detection could be above standards, and it is likely that the public will not accept the scientific evidence, from either the NYSDEC or industry, when the science indicates an upgradient source. Alpha is already dealing with a situation on Long Island, at a reclaimed sand and gravel mine, where PFAS concentrations exceed standards in the ground water. Alpha conducted an investigation that ruled out an onsite source and determined from ground water flow directions along with the PFAS distribution in the soils and ground water that the source is upgradient from the mine. The NYSDEC detailed investigations that were even more thorough than Alpha's and arrived at the same conclusion. The NYSDEC posted the findings on the Environmental Site Remediation Database. The Town does not accept either Alpha's or the NYSDEC's findings and continues to push for further investigation. It is apparent to Alpha that limiting the monitoring program to just a few contaminants, which have been allegedly caused by mining on Long Island, would be more effective in addressing public concerns and limiting false narratives.</p>	
9	What is the rationale for the emerging contaminants being requested to be sampled when there is no historical record of these items being used at sand and gravel sites?	
10	Share same concern as Kris about emerging contaminants. Expect to see hits in study. Will be unrelated to mines because they can be found across Long Island. How will DEC handle this? Concerned about where this will end up. Hopes this does not create an issue for DEC and the mining companies.	
11	Question about cation and anion sampling. What will this show?	
		The study is intended to be comprehensive in scope. In addition to evaluating compounds of interest, the study will evaluate the potential impact of sand mining on the geochemistry of the water.

## Methodology

No.	Comment	Response
1	Would using existing wells produce a biased result?	In the Work Plan, DEC states that existing wells will be professionally surveyed before data collection can begin. This survey data will allow DEC to detect any bias in sampling that could result from location of existing monitoring wells. Monitoring wells must also be secured by the mine operator to prevent any outside tampering that could influence results. To ensure data are consistently obtained, a standard approach for data collection and quality control / assurance procedures must be followed by participating mines. The updated Work Plan details the groundwater sampling procedures and protocols in the "Groundwater Monitoring Program" section.
2	They noted a concern about different consultants and different labs being used?	
3	Having one approved sampling contractor and laboratory used during the testing period to ensure uniformity during both sample collection and analysis.	
4	Concerned that existing monitoring wells may not be in the proper location and that some bad actors will be doing their illegal activities away from the existing monitoring wells they have on site. Is there a monitoring plan that will standardize location of wells (near other activity) and depths of the wells? Otherwise, the results will be skewed as monitoring wells are placed to avoid detection of impacts.	The study does not require installation of additional monitoring wells. Existing or proposed mines located on Long Island that seek to mine below the water table are evaluated on a case-by-case basis. Staff determine the proper location of any wells and site-specific monitoring requirements are based on a detailed technical review of the site conditions and data provided in the mining permit application. Monitoring wells are typically installed along the perimeter of the mine sites. Due to their location both upgradient and downgradient of the mine site, these existing monitoring wells can detect analytes of interest moving onto the mine site from off-site activities. The requirement to have all monitoring wells professionally surveyed before sampling begins is intended to identify those wells that are located upgradient from mining activities or downgradient from other activities and therefore inform DEC about the origins of detected analytes.
5	The foregoing is by no means an exhaustive review of the Department's record of pro-miner favoritism but should be sufficient to provide the context for this one question, as to which the favor of a meaningful response is respectfully requested: Question: Given the Department's well-documented history of taking actions and articulating positions favoring the continuation and expansion of sand and gravel mining on Long Island even when opposed by local municipalities and their citizens, and given its representation in recent court documents that data have not shown any impacts to groundwater quality associated with mining activities, what possible confidence could Long Islanders have that the three-year "Groundwater Study at Long Island Mines" directed last December in now resigning Gov. Cuomo's veto message, to be based on data sampled from only such existing wells as are volunteered for testing by self-interested miners, will produce a fair and objective report based upon sufficient data and accepted scientific analysis, rather than a result-driven, pre-ordained vindication of the Department's promising actions on Long Island?	DEC has prepared an extensive, science-based groundwater sampling plan. To ensure data are consistently obtained, a standard approach for data collection and quality control / assurance procedures must be followed by participating mines. Participation in the study is voluntary at this time. DEC will consider appropriate changes to the Mined Land permit conditions regarding participation in the study as the study progresses. The updated Work Plan details the groundwater sampling procedures and protocols in the "Groundwater Monitoring Program" section. The final report will include the analysis methods, data used, and conclusions drawn for the residents of Long Island to read and evaluate themselves.

## Well Construction

No.	Comment	Response
1	Is well construction consistent at each mine site?	Well construction data will be made available based on historical boring /well completion logs. If data are missing, NYSDEC will ask for site-specific field evaluations. Based on existing data, well construction in terms of screen lengths and material type varies across sites.
2	Do we know well specifications (construction data)?	

## Existing Well Data

No.	Comment	Response
1	Of data that has been collected has anything jumped out at us?	For the water quality data that DEC currently has, the results have not significantly differed when compared to other facilities on Long Island.

## Long Island Historical Data

No.	Comment	Response
1	USGS stated they have historical data available.	DEC is aware of USGS' groundwater quality data across Long Island. DEC will work closely with USGS to obtain relevant data for potential consideration in this study.

## Suffolk County Department of Health Services

No.	Comment	Response
1	The Suffolk County Department of Health Services (SCDHS) should be a partner in this study. The SCDHS should have access and input into the placement of new test wells, the depth of testing and screen size. As you are aware, their expert staff are well received and respected by stakeholders and the public. It would add to the public's confidence in the study.	SCDHS has reviewed the draft Work Plan for this study and has provided feedback to DEC.
2	Would like to see DEC split samples with Suffolk County DOH and have them involved in the o increase confidence in the study.	The Governor's directive to DEC was to perform this study in consultation with NYS DOH. DEC will work with SCDHS to the extent practicable, but the county health department does not have the same access to the mine sites that is afforded to DEC through the agency's oversight of the Mined Land Reclamation Permit. As samples are collected by third-party environmental professionals and sent to certified laboratories for analysis, the public will be able to review the field notes, QAQC information and results, therefore there is no need for additional samples to be collected.
3	The SCDHS should split samples with the DEC. I have participated in many oversight committees for sampling plans for known or suspected contaminated areas including but not limited to Brookhaven National Laboratory, Roberto Clemente Park and the Manufactured Gas Plant toxic plume in Bayshore. There are many past partnerships between DEC and SCDHS where split samples were highly valuable and increased public confidence of the outcome.	The samples will be collected by water quality professionals according to DEC water quality monitoring guidelines and will be shipped to certified laboratories for analysis. DEC will be regularly observing the collection of the samples by these third-party professionals and will endeavor to include SCDHS personnel in observations as well.

## Surface water (river, lakes, etc.) / Evaporation

No.	Comment	Response
1	Will the study look at how mining operations impact to flow in river systems on Long Island?	<p>The Study will consist of an assessment of groundwater quality surrounding participating mines on Long Island and an evaluation of whether mining sand and gravel impacts groundwater quality. For further information on assessment of mine impacts on water quantity, please refer to the Topics about Mining on Long Island (R1) website (<a href="https://www.dec.ny.gov/lands/123134.html">https://www.dec.ny.gov/lands/123134.html</a>).</p>
2	Lake levels are falling, why not include spring-fed water bodies in study?	
3	Pine Lake and Artist Lake receding.	
4	<p>Another impact that was only peripherally noted at the public meeting is the impact of water loss from the aquifer due to evaporation from the exposed groundwater. Lakes have been described as “rivers to the sky.” Therefore, the loss of groundwater would be an impact that should be included as a negative impact due to sand mining activities.</p> <p>The residents from a community near the Roanoke Sandmining operation where a lake has been created commented that their own local lake has experienced a falling water level since the sand mining operations began. The connection between the two sites should be examined.</p>	
5	<p>The study should include the impacts of sand mining on water drawdown impacts to local ponds, rivers and tributaries. On the July 6, 2021, zoom public meeting hosted by the DEC to discuss the sand mining study, several community members inquired about the impact of Roanoke Sand and Gravel in Middle Island on reduced water levels in their local pond. They said “as the lake levels at the sand mine went up, the pond levels went down.” A DEC representative inferred it was related to rain. This response was inadequate and assumptive. As you allow more and more sand mines to drill into the aquifer and form lakes, there certainly could be a drawdown impact to nearby, community water bodies. Evaluating this potential impact fits within the scope of the study since DEC is issuing Neg Decs to sand mines when they request to drill into the aquifer.</p>	
6	Will exposing the ground water to the air cause it to evaporate and lower our water table?	
7	Can DEC do surface water sampling.	
8	<p>The public was informed that no water exposed by mining activities is to be sampled in the Study because the DEC considers this water to be surface water. Where lakes have been created due to sand excavations below the local water table, the water in the lake is in fact groundwater that has collected in the depression where sand has been removed from the site. It is exposed groundwater that is now in direct contact with the atmosphere.</p> <p>It is unsettling that the DEC has chosen to ignore the reality that the lakes created by mining excavation are really exposed groundwater sites. The “lake” water is directly, hydraulically connected to the groundwater system. By the very fact that each lake is exposed groundwater, they are now the most vulnerable point in the groundwater system. The quality of “lake” water is a good indicator of what may also be present in groundwater at present or may be at some time in the future. “Lake” water quality is also a good benchmark to gauge changes in groundwater quality.</p> <p>The unwillingness to include the quality of water in the mining-made “lakes” is a serious flaw in the plan for the study. According to the public meeting, six of the 23 sandmining operations in Suffolk County have lakes on site. Some of the “lake” bottoms are 40 feet or more below the water table. Applications to the DEC have requested deepening some of the lakes to nearly 90 feet below the water table.</p>	<p>The study will consist of an assessment of groundwater quality surrounding participating mines on Long Island and an evaluation of whether mining sand and gravel impacts groundwater quality.</p> <p>Since surface water is hydraulically connected to groundwater, downgradient groundwater sampling would capture any substantial impacts via surface water over the three-year study.</p>
9	<p>At the beginning of the Meeting, the audience was informed that water exposed by sand mining activities will not be sampled in the Study because the DEC considers this water to be surface water.</p> <p>Where “excavation lakes” have been created due to sand mining, the source of this water(s) is in fact exposed groundwater that has been unearthed from well below the local water table. Without question, these lakes are fully, directly and hydraulically connected to the groundwater system. To exclude them from the Study, because the Department has incorrectly characterized them as surface water, is a fundamental flaw in the Study’s basic assumptions that will minimize its overall value and merits; call into question its objective(s); and debase the credibility of its conclusions. The unwillingness of the DEC to sample the exposed groundwater is a serious deficiency that could easily skew the Study’s results and seriously impair the Department’s analysis and future decisions.</p> <p>Irrespective of whether the lakes’ waters are surface or groundwater, they must be sampled if the Study is to provide meaningful results. Sampling them will provide an excellent indication of the impurities currently infiltrating the groundwater system at these site(s) and may penetrate it deeper over time.</p>	
10	It was unclear from the meeting just how contamination of groundwater by sand mining is expected to happen? Is it only contamination that infiltrates from land above the groundwater or is it also contamination that enters the lake first and then flows into the surrounding groundwater system?	
11	The study should include sampling of the existing surface water lakes created by mining. The exposing of Suffolk County’s sole source drinking water aquifer to the surface by sand mining is very concerning due to the increased vulnerability to contamination. The study needs to include the sampling of these man-made lakes for all contaminants, including those referenced in comment #6 above.	

## Work Plan / Scope Comments (received prior to posting of Draft Work Plan)

No.	Comment	Response
1	Do participants have to log adverse events?	All results collected as part of the study must be reported. The samples are collected by third-party environmental professionals and the results are sent to DEC from the certified laboratory after being reviewed by an environmental professional. Any spills that occur at a mine must be reported in accordance with permit requirements or applicable regulations. Mining permits also require that any fueling of equipment be conducted in a manner to prevent spillage.
2	Will new wells be constructed, or will sites be using existing wells?	The study does not require installation of additional monitoring wells.
3	Will any new monitoring wells requested by the DEC for these projects and others require Geophysical logging (gamma and Conductivity) of the open bore hole or plastic cased well? This would be great for a number of reasons. Geophysical logging would be the best way to clearly delineate sand and clay layers within the aquifer and this information could be used to determine if potentially compromising an impermeable clay layer during excavation is at risk. The additional long term value of this geophysical information would be to incorporate it into both the USGS groundwater model being developed for Long Island and the CDM model for LI which is the model accepted by both the DEC and SCDHS for LI. The accuracy of both these models is a function of the quality and quantity of the geologic information incorporated into them. I have in many cases shared geophysical logging data collected during projects that I have worked on with both the USGS and CDM and they are always happy to have it. In some cases the USGS will perform this logging at their own cost to gather this data for this purpose. Modeling is not perfect but it is a tool that we have to manage these type water resource issues and we should all work together to make sure we do what we can to insure that results produced continue to be improved as we move forward.	Monitoring wells installed historically were positioned hydraulically downgradient and upgradient of a mine site with input of environmental professionals and under review and approval by NYSDEC.
4	Will some sites have to install wells?	
5	Are we only going to be using existing monitoring wells?	
6	Will DEC function as an auditor to see that monitoring wells are in the correct locations so there are no data gaps?	
7	Who will collect samples DEC or consultants?	Sampling will be conducted by environmental consultants with oversight by NYSDEC and/or NYSDOH. The updated Work Plan now posted on the website, details the groundwater sampling procedures and protocols, in the "Groundwater Monitoring Program" section.
8	Will you be sampling any new mine sites? If a site has been mined for 10 – 15 years we don't know what happened before.	The project scope outlined in the Work Plan aims to capture potential impacts to water quality immediately around participating sites. Based on groundwater rates of movements, the sampling plan would capture impacts due to current and historical operations going back several years.
9	Would there be value in going to a new mine site to see what conditions were there before they went into groundwater and started mining?	Baseline sampling (prior to mining into the water table) has occurred at numerous mine sites.
10	For the sites already performing water monitoring, what is different about this study? Will they just be continuing what is required in their permit?	DEC has proposed that participating mines continue the monitoring required under their existing permit requirements, expand upon the compounds of interest, add sampling for PFAS, and standardize sampling procedures and laboratory methods used. Appendix 4. "List of Compounds of Interest with Methods of Analysis and Specified Reporting Limits", in the updated Work Plan now posted on the website, details the list of compounds included in the study, the required laboratory method and reporting limits.
11	How will operators be trained to collect samples?	All sampling of wells will be completed by an environmental consultant that is certified to provide geological or engineering services in the State of New York. Further, DEC recommends that field staff for the environmental consultants are sufficiently experienced and qualified to perform the work outlined in the study. A pre-mobilization meeting will be held with all personnel involved in sampling. DEC will observe sampling events, to ensure sampling methods and procedures are being performed in accordance with this Work Plan. To ensure data are consistently obtained, a standard approach for data collection and quality control / assurance procedures must be followed by participating mines. The updated Work Plan details the groundwater sampling procedures and protocols in the "Groundwater Monitoring Program" section.

No.	Comment	Response
12	Can you include in your next presentation where mines are located on Long Island and where monitoring wells are at these mine sites?	The location of all permitted and reclaimed mines is available on the NYS DECinfo Locator, please follow the link to our website ( <a href="https://www.dec.ny.gov/pubs/109457.html">https://www.dec.ny.gov/pubs/109457.html</a> ). Maps of the monitoring well locations will be developed for participating mines.
13	Can we do the study faster?	The study is set to begin immediately upon final approval. A minimum three-year period is required to analyze seasonal fluctuations and natural variations in groundwater state, and to obtain a statistically relevant data set. Quarterly results of all data (monitoring of permitted mine sites as part of permit conditions and/or study participation) will be reviewed by DEC staff and any exceedances or anomalies will continue to be addressed in real-time. Routine monitoring of permitted mine sites as part of permit conditions will continue beyond the study term.
14	Why limited to 3 years?	
15	Groundwater moves at known speeds; the monitoring wells need to be within a range from the mines whereby potential impacts actually can be seen within a three-year period. How realistic?	The project scope outlined in the Work Plan aims to capture potential impacts to water quality immediately around participating sites. Based on groundwater rates of movements, the sampling plan would capture impacts due to current and historical operations going back several years.
16	The question is, will any ground water modeling be done on the potential impacts of excavation below the water table at any of these locations?	Groundwater modeling is beyond the directed scope of this study.
17	The second concern arose from the impression we got that the NYSDEC is looking for the direct submission of laboratory analytical data (EDDs) from the labs to the NYSDEC. The direct delivery of EDDs from the laboratory to the NYSDEC is not appropriate, and the submittal should go through the client or client-designated representative, unless authorized in writing by the client who has paid for the services. This is an ethical issue; however, this is also a technical issue related to errors that have occurred when laboratories conduct both the field sampling and the laboratory analysis. Alpha has recent experience with laboratories on Long Island that have misidentified which well was being sampled and have also misassigned matrix spike and matrix spike duplicate samples as actual well samples. These types of errors will create problems for both the operators and the NYSDEC. The continued occurrence of these types of laboratory errors may not always be caught and rectified by the operator, but the operator should at least have the opportunity to address it or validate the data before it enters the public domain.	Please refer to the "Quarterly Reporting Requirements (Participating Mines)" section of the updated Work Plan now posted on the website. DEC will require participating mines to submit within 45 days of completion of field work all relevant data via an Electronic Data Deliverable (EDD). All data provided as part of the EDD must be checked for accuracy and submitted by a person certified to perform geological or engineering services in the State of New York. Specific requirements for providing data can be found at <a href="https://www.dec.ny.gov/chemical/62440.html">https://www.dec.ny.gov/chemical/62440.html</a> .
18	One additional question that came up after the stakeholder meeting is whether an operator who has recently conducted baseline sampling for an existing mining permit or a permit modification application will be able to reduce the sampling to routine parameters by the time the monitoring program officially begins in the fall. This is under the assumption that the historical baseline sampling is recent and consistent with the proposed regional study. Credit for existing sampling would help defray some of the cost, which could be well above \$100,000 per year for some of the operators. This cost is a significant burden to the operators for a volunteer program.	To ensure data are consistently obtained, a standard approach for data collection and quality control / assurance procedures must be followed by participating mines. The updated Work Plan now posted on the website, details the groundwater sampling procedures and protocols in the "Groundwater Monitoring Program" section.
19	The press release announcing the public meeting stated that, "DEC developed a written protocol for the study to guide groundwater sampling and testing at existing monitoring wells at mine sites on Long Island." (emphasis added) It would have been helpful for the public to have been able to read the protocol itself rather than being told how the DEC was going to approach data collection at certain sites. For example, attendees were not told how many sampling wells were involved in the data collection or where they are. <ul style="list-style-type: none"> <li>• Are they upgradient or down-gradient from the sand mining site?</li> <li>• How close to the water table will the samples be drawn?</li> <li>• Are the wells on the mining property or off site?</li> <li>• How many samples per mining site will be taken and what is the sampling schedule?</li> </ul> The lack of details limited the ability of attendees to make meaningful comments at the meeting.	
20	Monthly sampling of the sand mining locations for Volatile Organic Compounds, Semi-Volatile Organic Compounds and Metals during the entire study period. We support the proposal that after a review of baseline results that samples for PCBs, herbicides and pesticides may be removed.	
21	Would all wells have to be sampled at these sites?	
22	According to the Department's "Mining on Long Island" webpage "[i]n 2020, Governor Cuomo directed DEC and DOH to conduct a minimum three-year study on the potential for impacts of mining on groundwater."1 It also informs us that the Cuomo-directed DEC "plans to launch the study in the fall of 2021 with the first round of baseline sampling" at existing wells and only on a voluntary basis, and that, "[a]t the end of the [three-year] study period" it "will produce a report for public review." So what will we concerned Long Islanders get? A report. When? No sooner than late 2024, and no outside date appears to be set.	A report will be issued upon completion of the Study, which at present is three years from Q3 2022. Groundwater monitoring results will be reviewed by DEC as they are received, and any issues identified by DEC will be flagged for further action. Participation in the study is voluntary at this time. DEC will consider appropriate changes to the Mined Land permit conditions regarding participation in the study as the study progresses.

## Draft Work Plan Comments

### General Comments on Draft Work Plan

No.	Comment	Response
1	Due to inherent complexities in evaluating data from multiple sand mining sites, such as data consistency and interpretation, establishment of background groundwater quality, etc. it is recommended that the NYSDEC partner with local groundwater experts, such as the United States Geological Survey (USGS). SCDHS is available to assist, as well.	DEC will work with SCDHS and USGS to the extent practicable, considering these agencies do not have the same access to the mine sites that is afforded to DEC through the agency's Mined Land Reclamation Permit.
2	SCDHS recommends that as the program progresses, site-specific work plans be developed. These site-specific work plans should include the following information: site maps; existing well locations and construction details; groundwater flow direction; site activity history and other relevant available site information. Site history may include factors such as vegetative organic waste matter processing, acceptance of construction and demolition debris, and chemical and/or petroleum storage, which could have resulted in potential environmental impacts. SCDHS would appreciate the opportunity to provide input on these site-specific work plans.	There is no plan to develop site-specific work plans. Site-specific information such as the existing well network, well construction details, will be included in the final report. The final report will be available to the public and stakeholders.
3	When possible – DEC should try to obtain well construction logs.	Well construction data will be made available based on historical boring /well completion logs. If data are missing, NYSDEC will ask for site-specific field evaluations. Based on existing data, well construction in terms of screen lengths and material type varies across sites. Additionally, this information is required by the Work Plan to be submitted with the first quarterly monitoring report.
4	All references to “participating operators” in the Work Plan should be revised to “voluntary participating operators” in order to clarify/confirm the voluntary participations of these entities.	Participating operators is the chosen title for sites that participate in the study.
5	The state of Long Island’s water quality is of the utmost importance. As you are probably aware, the negative impacts that mining and related activities have had on Long Island’s groundwater resources has been a source of great concern for local governments for decades. These concerns were heightened when a study by the Suffolk County Department of Health Services of mine sites that also accept organic waste revealed significant impacts to groundwater related to those activities. As I have stated repeatedly, local governments have a special interest in protecting the sole source aquifer that provides Long Island’s drinking water and are uniquely qualified to assess the negative impacts that mining and related activities can have on water quality. Although SCDHS has submitted its own comments regarding this study, I am submitting these additional comments to reiterate the County’s position that these matters are best addressed at the local level. To be clear, our County Health Department has the expertise, capacity and is certainly better positioned to conduct this type of study.	The Governor’s directive to DEC was to perform this study in consultation with NYS DOH. The veto of 10001-A also required DEC to solicit feedback from county health departments as they are relevant stakeholders in this process. SCDHS has attended stakeholder meetings, reviewed the draft Work Plan, which includes technical aspects of the study, and provided feedback to DEC.
6	The failure of the Mined Land Reclamation Act (MLRA) to address concerns that are unique to the Long Island area should be noted in the report recommendations. For much as New York State, reclamation of a mined site could include partially refilling a mined area and then rehabilitating it into a useful land area again, like the grassy picture on the cover of the Study Work Plan. This reclamation approach is not a good match for Long Island when the aquifer has been invaded a hundred feet or more. There is no material that could be used to fill the crater created by the sand mining that would not present a possible danger from pollution once the groundwater is uncovered. Thus, mining companies pretend that they are doing a favor to the local community by creating a lovely lake. However, most people do not want their drinking water to be used for boating, swimming, fishing, and other activities that are inherently polluting to a drinking water supply. The DEC should take the steps necessary to amend its sand mining policies to prevent the development of lakes in the aquifers as an acceptable remediation practice on Long Island. The creation of lakes in the aquifer as a result of sand mining should be prohibited.	Once the study and final report are complete, DEC will consider any necessary changes to the Mined Land Reclamation program on Long Island. DEC does not currently have any data indicating negative impacts to water quality as a result of mining below the water table.
7	SCDHS recommends that the plan include the provision for sampling surface waters at mines that have extended below the water table. It is recommended that the program include at least 2 samples per water body as follows: VOCs, SVOCs, cation/anions, TDS, pesticides, herbicides, 21 per-and polyfluoroalkyl substances (PFAS), 1,4-dioxane, and gross alpha/gross beta radiation should be analyzed. An initial goal for sampling frequency could be quarterly for 3 years, but this could be refined as more detailed work plans are developed. Polychlorinated biphenyls (PCBs), isotopic uranium and thorium, radium 226/228 for the first four quarters, and one quarter in the ensuing years.	The study will consist of an assessment of groundwater quality at participating mines on Long Island and an evaluation of whether mining sand and gravel impacts groundwater quality. The surface water (i.e., lakes) at sand and gravel mine sites does not represent groundwater quality because concentrations of compounds potentially introduced are diluted (via mixing of water in the lake) and broken down (i.e., volatilized via sun’s energy). Further, as surface water is hydraulically connected to groundwater, downgradient groundwater sampling would capture any substantial impacts via surface water over the 3-year study.
8	The study plan of work does not comment on how or if the study will consider, evaluate or document activities taking place within a mining site that may be ancillary to sand mining. This could be activities such composting, waste storage, machinery maintenance or repair. All these activities and more could become sources of groundwater contamination. How will they be handled in the study?	Environmental professionals will be required to document existing conditions at the mine at the time of sampling. Site maps detailing the current use of the property for a participating site, including areas where activities such as waste storage occurs, will be provided in a final report. The Work Plan has been modified to account for this.

No.	Comment	Response
9	There should be additional protocols required for those sites located within SGPA's.	The project scope outlined in the Work Plan compares analytical groundwater data for a wide variety of compounds, including PFAS, to the most stringent Class GA standards for the sole source aquifer on Long Island. Because we are already planning to compare the results to the potable drinking water standard, DEC has not required additional protocols.
10	Will the "subject" mines be permitted to modify/transfer/renew their existing permits during this study period and under what Special Conditions?	DEC will continue to review permit applications for renewals, modifications, and new mines and make determinations on permit issuance during the pendency of this study as required by applicable laws and regulations.
11	There are other factors associated with mining activities that may impact water quality, i.e. vegetation removal, truck traffic, land use on adjacent properties how will these factors be assessed?	The goal of this study is to determine whether sand mining is impacting water quality on Long Island. If during the duration of the study analytical results of the groundwater samples suggest a potential impact from other activities, DEC will further assess those to ensure water quality is not impaired.
12	It has been documented that upon inspection, certain mining operations have received deleterious material not suitable for use as clean fill. The study should identify what protocols will be put in place to ensure that this imported material is not placed below the water table as a groundwater monitoring program may not be suitable for timely detection.	DEC has no evidence of imported material being placed below the water table at any of the permitted mines. Illegal dumping anywhere is harmful to the environment. New York State laws and regulations prohibit such activities. DEC investigates allegations of illegal waste disposal and enforces the law, holding violators accountable for their actions, requiring site cleanup and proper waste disposal. DEC has in previous cases and will continue to pursue illegal disposal cases administratively, civilly, criminally, and in collaboration with local law enforcement.
13	Please explain "the protection and perpetuation of the taxable value of the property", (as stated in the Mission Statement of the Mining Program) if the mined site is ultimately offered as a donation to the local municipality or non-profit organization for use as a passive recreation area.	The quote refers to the protection and perpetuation of the taxable value of property in general and not only the specific mined property. One of the main mission statements for the mined land reclamation program is the reclamation of land affected by mining with protects and perpetuates the taxable value of surrounding property.
14	<p>There is a second aspect of the study that is not adequately discussed. This is the issue of eliminating the exposed groundwater for data collection at sites that have excavated into the aquifers. Exposing groundwater at mining sites represents a direct threat to the groundwater system, yet, the DEC continues to allow this mining practice on Long Island to persist. Some sites have exposed groundwater covering acres. Some mines have dug more than 200 feet beneath the water table. This practice opens broad expanses of groundwater to contamination by land-based activities, e.g., a significant environmental liability to groundwater quality.</p> <p>It is ironic that the DEC's own guidance documents acknowledge how dangerous it is to provide direct access to the groundwater. For example, the guidance for how to properly decommission monitoring wells notes:</p> <p>"Groundwater monitoring wells provide essential access to the subsurface for scientific and engineering investigations (including monitoring wells installed for leak detection purposes). To a degree, every monitoring well is an environmental liability because of the potential to act as a conduit for pollution to reach the groundwater. To limit the environmental risk, a groundwater monitoring well must be properly decommissioned ..." (emphasis added)</p> <p>(Source: CP-43: Groundwater Monitoring Well Decommissioning Policy, Nov. 9, 2009, pg. 60 of Draft Groundwater Study Work Plan, October 2021)</p> <p>Obviously, creating a lake in the aquifer is far more threatening to groundwater than a monitoring well.</p>	DEC has no evidence that mining causes impacts to groundwater. Other actions or accidents could cause an impact such as a spill into the water. For this reason, DEC conditions mining permits to include a spill prevention and reporting requirement.

## Project Background and Description Comments

No.	Comment	Response
1	<p>The discussion of Regulatory Framework beginning on page 6 should either be eliminated or limited to a reference to the Mined Land Reclamation Law as the applicable legislation regulating mining in New York. As the NYSDEC is aware, the requirements of the MLRL, and the regulatory history surrounding mining in New York, are extensive and complex and Coram recommends simplifying this section as indicated above to avoid potential disputes/disagreements regarding the provisions of this Section.</p>	<p>The section lays out a brief overview of mining regulation and the permit review processes for those that are unfamiliar with it.</p>
2	<p>Page 7 – Hydrogeological Setting                      “The Upper Glacial aquifer is connected to surface water on Long Island and in some areas serves as a source of drinking water. Although a majority of the drinking water supplied to the public is sourced from the underlying Magothy aquifer, far below where mining activities occur...”                      This statement appears to minimize the use of the shallow aquifer as a drinking water source in Suffolk County and should be revised. There are many communities in Suffolk County where the only available potable water supply is from private wells that tap the shallow Upper Glacial Aquifer. It is estimated that approximately 30,000 homes still use private wells as their only potable water source. Areas such as Shelter Island only have a very limited shallow aquifer. Please note that SCDHS estimates that over 50% of the active public water supply wells in Suffolk County are screened in the Upper Glacial aquifer.</p>	<p>DEC acknowledges that the Upper Glacial Aquifer is also an important source of drinking water for Long Island.</p>
3	<p>Page 7 – Permitted Mines and Groundwater Monitoring                      “To date, a total of six mines are required by mining permit to submit groundwater monitoring data to NYSDEC on a quarterly or semi-annual basis.”                      A more detailed description of the pre-existing data from the six mines would be helpful if included in the work plan (e.g., the names of the six mines, a list of parameters monitored at each mine, the date range of the existing data for each mine, etc.). Such data provides context and justification for the sampling plan proposed.</p>	<p>Groundwater monitoring activities being performed as part of existing permit requirements will be outlined in the report.</p>
4	<p>Page 7 – Involved Parties                      As stated in the General Comments section above, it is recommended that the NYSDEC consider coordinating with an agency such as the USGS for this study.</p>	<p>DEC will work with SCDHS and USGS to the extent practicable, considering these agencies do not have the same access to the mine sites that is afforded to DEC through the agency's Mined Land Reclamation Permit.</p>
5	<p>To whom it may concern,                      This office has represented neighbors in litigation regarding groundwater impacts from sand mines on Long Island and has sought, together with the Town of Southampton and numerous environmental groups, to compel the NYS Department of Environmental Conservation (NYSDEC) to protect the aquifer impacted by such mines. See, Town of Southampton, et al v. NYS DEC, Index No. 902239-19, Albany Supreme Court, Albany County. We offer these comments with the background of that litigation in mind and to reiterate the statements offered by representatives of the NYSDEC in that context to demonstrate that office is not the proper party to conduct the proposed study.                      The Documented Bias of The DEC Division of Mineral Resources Should Disqualify Anyone From That Office From Participating In Studies of the Impacts of Mining on Groundwater on Long Island.                      As set forth in documents submitted in Town of Southampton, et al v. NYS DEC, Index No. 902239-19, Albany Supreme Court, Albany County, the DEC Division of Mineral Resources has predetermined that mining activities have no impacts on the aquifer. In the course of such litigation, the NYSDEC has routinely ignored data obtained by the Suffolk County Department of Health and independent scientists indicating that mining has already impacted the sole source aquifer. The DEC has not only disputed those findings, but in the process, disparaged the Suffolk County officials who conducted such testing and indeed impugned the integrity of the Suffolk County Department of Health Services (SCDHS), Division of Environmental Quality, Office of Water Resources. See, Affidavit of Karen Gomez dated July 8, 2019 (NYSECF Doc. No. 217). These efforts to repeatedly disparage the SCDHS have been particularly disconcerting given that this agency has been working hand in hand with NYSDEC for decades in looking to protect the Long Island aquifers and drinking water supply.                      In the Memorandum of Law In Opposition to Petitioners’ Request for a Preliminary Injunction, ECF Doc. No. 210 (filed Albany county clerk 07/08/2019) at page 7, the Attorney General’s office on behalf of NYSDEC cites to the affidavits of the same DEC staff that will be overseeing this study (Kristy Salafrio (NYSECF Doc. No. 221) , Katherine Gomez (NYSECF Doc. No. 217), and Catherine Dickert (NYSECF Doc. No.211) to support the position that sand mining poses no threat to the aquifer. In addition, the Attorney General’s office cites to Ms. Dickert’s affidavit to state that even sand mine facilities at or below the groundwater table will not negatively impact the aquifer. Memo p. 7, FN 7, citing Dickert Aff, para. 25. These documented statements and positions demonstrate a pre-existing bias regarding the impacts of sand mining activities that should disqualify both Ms. Dickert and the DEC from being able to conduct the proposed study.                      The affidavits of Salafrio and Gomez in this same action similarly claim that sand mining activities have no impact on the aquifer and are harmless activities. Salafrio para 25; Gomez para 16. Again, these statements are not supported by the existing data or other outside investigations. The proposed study will be conducted by the NYSDEC Division of Mineral Resources in cooperation with the mining industry and their consultants. It is unlikely that any “study” structured in this manner will provide the impartial scientifically verified results demanded in protecting the safety of Long Island’s water supply. Considering the importance of this resource and the potential long term detrimental effects on Long Island’s sole source drinking supply, it is imperative this study be conducted in an impartial and scientific manner.</p>	<p>DEC is conducting this study as required by the governor’s veto of 10001-A. The veto requires DEC in consultation with NYS Department of Health to conduct this study. DEC will continue to solicit feedback from Suffolk County Department of Health and the USGS as they are relevant stakeholders in this study.</p>

No.	Comment	Response
	<p>The principal investigators managing and leading this study have already publicly stated that sand mining activities are not harmful to the environment. The very individuals that will conduct and monitor this study have repeatedly stated in numerous court and agency proceedings that they believe sand mining is harmless and of no consequence to the aquifer. They have also claimed that no data exists that indicates any contamination has been found in and around mine facilities, despite clear scientific data to the contrary. The statements by these representatives of the DEC Division of Mineral Resources demonstrate that any studies that might be conducted must be performed by an independent scientifically qualified entity utilizing recognized scientific methods.</p> <p>The USGS Is the Proper Party To Conduct Any Study Of The Impact Of Mining On The Ground Water</p> <p>The previous positions taken by DEC and notably the Division of Mineral Resources highlight the importance of the proper team conducting this study. Essentially the only non-bias governmental researchers available on Long Island with the experience and data to effectively perform this work would be the United States Geological Survey (USGS) or the SCDHS.</p> <p>In conclusion we strongly recommend that any study of the impacts of mining on Long Island be done by qualified impartial experts that are not associated with the mining industry or its regulators. We recommend the USGS lead the study with the support of other agencies.</p>	

## Project Scope Comments

No.	Comment	Response
1	<p>Page 8 – Literature Review of Existing Long Island Groundwater Data</p> <p>Given the challenges in developing background levels applicable to a wide variety of sand mining operations, located in diverse geological areas (e.g., glacial moraines, outwash plains, north shore, south shore), it is recommended that a more detailed explanation on the methodology for developing background conditions of the aquifer be provided. In addition, a description of how the background values will be applied in the study is needed.</p>	<p>The Work Plan is intended to provide a brief overview of the project scope. Details on any background data or general trends will be provided in a final report. The draft final report will be available to the public and stakeholders.</p>
2	<p>We encourage NYSDEC to maximize participation of all active sand mines in the study, to the extent practicable. The Draft Work Plan states that there are 23 mines subject to jurisdiction of the Mined Land Reclamation Law (MLRL) in NYSDEC Region 1, and that the NYSDEC anticipates that six to ten mines will participate in the study. Evaluation of more sand mines would allow a broader assessment of the potential groundwater impacts from a range of site variables. Each of the 23 Long Island sand mines is uniquely located with respect to: geology; hydrogeology; and depth to water. Each sand mine also has unique site activities/history and different years of operation, etc. Having groundwater data from all sand mines will enable the evaluation of the influence of these variables on groundwater quality.</p>	<p>Participation in the study is voluntary at this time. DEC will consider appropriate changes to the Mined Land permit conditions regarding participation in the study as the study progresses. DEC anticipates that approximately six to ten mines will participate in the study. Participating mine sites will be required to perform the groundwater monitoring as outlined in the project scope of the updated Work Plan. Several mines are required by their mining permit to submit groundwater monitoring data to DEC on a quarterly or semi-annual basis. These requirements typically include sampling groundwater for analysis of various chemicals, such as volatile organic compounds (VOCs) and metals, and water-level monitoring. While other mines may collect groundwater data or have monitoring wells installed at the site to gather baseline conditions, these mines are not required to submit data to DEC. For the purposes of this study, all participating mine sites will follow one consistent approach as specified by DEC and will analyze samples collected for a specified list of compounds of interest at the same frequency.</p>
3	<p>How many mining sites will be involved in the study? Out of the 23 active mining operations on Long Island, the DEC notes that only about 6 - 10 mines will be studied. The participation of the mine operators will be voluntary.</p>	<p>Seven sites are permitted to mine into the groundwater table and two mines have a pending application to mine into the groundwater table that is currently under DEC review. Of these sites, only five have excavated below the groundwater. The monitoring of surface water is not part of the study as per the Veto.</p>
4	<p>How many of the mining sites will be ones where the water table is exposed and the groundwater itself is invaded? The DEC does not indicate it intends to seek participation at mining sites where the groundwater is uncovered. In fact, the DEC has specifically ruled out monitoring or testing the uncovered groundwater at any sites where the groundwater is exposed.</p>	
5	<p>The document should identify the participating sites and the criteria for their selection.</p>	<p>Participation in the study is voluntary at this time. DEC will consider appropriate changes to the Mined Land permit conditions regarding participation in the study as the study progresses. DEC anticipates that approximately six to ten mines will participate in the study. Participating mine sites will be required to perform the groundwater monitoring as outlined in the project scope. Several mines are required by their mining permit to submit groundwater monitoring data to DEC on a quarterly or semi-annual basis. Quarterly results of all data (monitoring of permitted mine sites as part of permit conditions and/or study participation) will be reviewed by DEC staff and any exceedances or anomalies will continue to be addressed in real-time.</p>

No.	Comment	Response
6	<p>Page 8 – Groundwater Monitoring Program</p> <p>The groundwater monitoring program should include the following information:  Sand mine site maps that display the location of the wells to be sampled.  If available, groundwater table elevation data for each well, groundwater table elevation contour lines, and the inferred direction of groundwater flow.  Well completion reports stating the well construction details (e.g., casing diameter, depth, screen length and screened interval, screen depth below water table, construction materials, etc.) for all wells proposed to be included in the study. This information should be checked for consistency between study sites.</p>	<p>The information requested will be provided in a final report. A draft of the final report will be available to the public and stakeholders.</p>
7	<p>How many monitoring wells will be used in the study? The study does not adequately define what it considers a “monitoring well” to be. Does it include public water supply wells, private domestic wells, wells operated by agencies such as the USGS or Suffolk County Department of Health Services? Without this clarification, it is difficult to know if there will be a sufficient number of wells available to collect water quality information. It is very possible that if only true “monitoring wells” are to be used, there may be limited coverage of the study area. The other possibility is that the wells are those installed by the mining companies themselves to monitor mining impacts. The plan does not specify what monitoring wells it will use.</p>	<p>The number of mine sites participating in the study, and thus the number of monitoring wells, has not yet been finalized. Monitoring wells used in the Study do not refer to other types of wells, and do not include any supply wells or wells owned/ operated by other agencies.</p>
8	<p>Will the DEC install new “monitoring wells” to fill in gaps where groundwater quality data is needed? It appears that the DEC will not be installing any new or additional monitoring wells in the study area. Thus, the location of wells relative to mining sites and down-gradient from the mining operations will be guided mainly by chance. This will make it difficult to confirm groundwater quality data that is connected to a known source.</p>	<p>The study does not require installation of additional monitoring wells. Monitoring wells installed historically were positioned hydraulically downgradient and upgradient of a mine site with input of environmental professionals and under review and approval by NYSDEC.</p>
9	<p>Will monitoring wells be located within mining site boundaries or outside the property boundaries? The DEC study plan is silent on whether it will be using wells within the perimeter of a mining operation or not. Having the data collection wells in close proximity to the mining activity will help establish the cause-and-effect data the study seeks to obtain.</p>	<p>The study does not require installation of additional monitoring wells. Monitoring wells installed historically were positioned hydraulically downgradient and upgradient of a mine site with input of environmental professionals and under review and approval by NYSDEC and Qualified Environmental Professionals. Most monitoring wells are positioned along the perimeter of the mine sites.</p>
10	<p>Will the groundwater quality at mining sites where the groundwater has been exposed be tested? It would be a reasonable starting point to have a benchmark of groundwater quality when collecting data from around a mining site. The obvious place to start is to monitor and test the groundwater exposed by active mining operations. Presently, the DEC has stated it does not intend to monitor groundwater uncovered at mining sites. The DEC should rethink this position and include water quality monitoring of exposed groundwater at the 6 mining sites where excavation has gone below the water table. All six mines should be included in the study.</p>	<p>The study will consist of an assessment of groundwater quality surrounding participating mines on Long Island and an evaluation of whether mining sand and gravel impacts groundwater quality. The surface water (i.e., lakes) at sand and gravel mine sites does not represent groundwater quality because concentrations of compounds potentially introduced are diluted (via mixing of water in the lake) and broken down (i.e., volatilized via suns energy). Further, as surface water is hydraulically connected to groundwater, downgradient groundwater sampling would capture any substantial impacts via surface water over the 3-year study.</p>
11	<p>How deep within the aquifer will water quality samples be drawn? The study plan did not specify the depth at which water samples will be collected from the monitoring wells.</p>	<p>Well construction in terms of depth or screen length are determined on a site-by-site basis with input of environmental professionals and under review and approval by NYSDEC. Well construction data will be made available in a final report based on historical boring /well completion logs.</p>
12	<p>Page 9 – Groundwater Sample Collection Procedures</p> <p>The entity responsible for collecting the synoptic water level measurements and groundwater samples should be reported. For consistency, it is recommended that the same entity conduct the work at all of the sites participating in the study.</p> <p>Sampling protocols included in Appendix 1B require wells with screen lengths of 10 feet or less. It is assumed, therefore, that if an existing well has a screen length greater than 10 feet it will be replaced. This should be confirmed in the work plan.</p> <p>The name of the analytical laboratory to be used in the study should be provided. A listing of the appropriate ELAP certification areas for the lab should be provided.</p>	<p>Groundwater monitoring activities, including well construction and laboratory, will be provided in a final report. As detailed in the report, due to costs, there is no requirements to install new monitoring wells, even if well screens are greater than 10 feet.</p>
13	<p>The scope and frequency of the required sampling should be reduced as further detailed below. The total projected costs associated with this study at just the Coram facility is estimated at \$538,000, which is an increase of \$176,800 above Coram’s current monitoring costs under its MLRL Permit. These costs are significant and should not be borne by facility’s that agreed to voluntarily participate in the proposed study.</p>	<p>DEC has prepared a groundwater monitoring program that will provide adequate information concerning the potential impact of sand and gravel mining on groundwater quality and deems the current project scope outlined in the Work Plan reasonable, technically sound, and comprehensive to achieve the objective of the study.</p>
14	<p>The need for quarterly sampling for those metals that Coram is not currently required to sample, SVOCs and anions/cations should be evaluated following the completion of the Baseline Sampling and should only be required if the Baseline Sampling demonstrates an appropriate basis for continuing the sampling. The costs associated with this sampling are significant and as a voluntary participant in this program, Coram should not have to bear these excessive costs without an appropriate basis for doing so.</p>	<p>DEC will require participating mines to perform sampling consistent with the Work Plan to ensure the study produces complete and accurate data and that public concerns are adequately assessed.</p>

No.	Comment	Response
15	The QA/QC frequency requirement should be reduced to 1 per sampling event, consistent with NYSDEC's Guidance Document for Groundwater Monitoring Sand and Gravel Mines in Region 1, as the additional costs associated with NYSDEC's proposed QA/QC requirements are not necessary to insure the validity of the sampling results and places an undue burden on the voluntary participants like Coram.	DEC requires that QA/QC sampling be consistent with the DER-10 Guidance for Site Investigation and Remediation as part of a comprehensive groundwater study. The updated Work Plan details the groundwater sampling procedures and protocols in the "Groundwater Monitoring Program" section.
16	<p>The sampling and laboratory analysis for emerging contaminants (ECs), including 1,4-Dioxane and 21 per- and polyfluoroalkyl substances (PFAS), should not be included in this Work Plan for the following reasons:</p> <p>a. Operations conducted at the Coram site have not previously, and do not now involve the substantial use of, or generation of EC. Based on this fact, the inclusion of ECs in the sampling plan is inconsistent with the stated goals, purpose, and objectives of the Work Plan.</p> <p>b. It is common for background levels of EC to be present in groundwater. The sampling proposed in the Work Plan will not adequately evaluate potential background sources of ECs.</p> <p>c. NYSDEC has already completed groundwater sampling for ECs at the Coram Site, and determined further investigation of ECs is not warranted.</p> <p>d. The collection and laboratory analysis of groundwater samples for ECs is a costly undertaking. Coram has agreed to participate in this program as a volunteer, and should not have to bear this excessive cost to evaluate groundwater samples that are in no way related to the operations being conducted at the Coram Materials site, and are in no way relevant to the stated goals, purpose and objectives of NYSDEC groundwater study.</p>	DEC requires two consecutive rounds of sampling for 1,4 Dioxane and PFAS as part of a comprehensive assessment of the potential impact of sand and gravel mining on groundwater quality. The updated Work Plan details the groundwater sampling procedures and protocols in the "Groundwater Monitoring Program" section.
17	<p>Page 10 – "Groundwater samples will be analyzed for a range of compounds based on historic and current activities associated with mining activities. These compounds of interest are also typically analyzed as part of site characterization activities undertaken by the DEC Division of Environmental Remediation." Why are benign mine sites, with no history of environmental spills or releases, being treated like Environmental Remediation Sites? If shallow soils were historically impacted by past activities, these soils have been removed from the site and are no longer a potential source of impact. Because of the need for heavy equipment on these sites – evaluating groundwater for VOC and SVOCs (which could be in fuel and lubricating oils) is understandable. Also, because Long Island naturally occurring metals (sometimes naturally elevated above drinking water standards) already in the soils, analysis for metals (totals and dissolved) is understandable. However, analysis for PCBs, Pesticides Herbicides, Isotopic Uranium and Thorium, Radium 226/228, PFAS and 1,4 Dioxane is not warranted based upon past uses of these facilities and existing analytical data from Long Island's largest mine facilities. These analytical parameters are not even required at NYSDEC Brownfield Cleanup Sites or Federal Superfund Sites with known histories of chemical releases and spills. Sampling and analysis for baseless compounds is not warranted and does not match remedial investigation guidelines detailed in NYSDEC's DER-10 Technical Guidance for Site Investigation and Remediation.</p>	The study is intended to be comprehensive in nature, to the extent feasible. DEC is including analysis for a range of compounds including PCBs, pesticides, radionuclides and PFAS to address input from other key stakeholders including the New York State Department of Health, Suffolk County Department of Health Services, and environmental groups.
18	<p>Page 10 – Groundwater Analysis, Sample Frequency &amp; Monitoring Locations Polychlorinated Biphenyls (PCBs), Isotopic Uranium and Thorium, Radium 226/228 should be analyzed from all wells for the first four quarters, and one quarter in the ensuing years, if appropriate. Pesticides, herbicides, 21 per-and polyfluoroalkyl substances (PFAS), 1,4-dioxane, and gross alpha/gross beta radiation should be analyzed in all wells in all of the sampling rounds of the study.</p>	DEC has prepared a groundwater monitoring program that provides adequate information concerning the potential impact of sand and gravel mining on groundwater quality and deems the current project scope outlined in the Work Plan reasonable, technically sound, and comprehensive to achieve the objective of the study.
19	Laboratory results should be reported to the local municipality in addition to the DEC;	DEC does not require the submission or reporting of laboratory results for mine sites to a municipality, but a municipality would have access to the results as they become available and in the final report.
20	<p>Page 12 – "All sampling of wells will be completed by an environmental consultant that is certified to provide geological or engineering services in the State of New York. Further, DEC recommends that field staff for the environmental consultants are sufficiently experienced and qualified to perform the work outlined herein." Does this mean, in accordance with Section 7210 of the New York State Education Law, that only business entities with Certificate of Authorizations to Provide Engineering/Land Surveying/Geologic Services will be approved to perform these sampling activities? If so, will DEC be approving proposed vendors before the sampling activities begins? And how so? What will be needed for approvals?</p>	It is correct that the consultant / business entity performing geological or engineering services must be certified to perform such work in NYS. Reports and data submitted must be reviewed by an individual who is certified. The individual performing the sampling on behalf on the consultant need not themselves be certified. DEC does not approve such certification.
21	<p>Page 12 – Please note that all data provided as part of the EDD must be checked for accuracy and submitted by a person certified to perform geological or engineering services in the State of New York. Does this mean, in accordance with Section 7210 of the New York State Education Law, that only business entities with Certificate of Authorizations to Provide Engineering/Land Surveying/Geologic Services will be approved to submit EDD packages?</p>	
22	<p>Page 12 – "To ensure all participants are familiar with the sampling requirements, address site-specific concerns, and review expectations for the groundwater study, DEC proposes to hold a pre-mobilization meeting with all personnel involved in sampling at participating mines. Further, DEC will observe sampling events, to ensure sampling methods and procedures are being performed in accordance with this workplan." When will DEC observe sampling events? What type of notice will be required?</p>	Upon receipt of confirmation of participation, DEC will provide further information concerning field work notification and oversight of groundwater monitoring.

No.	Comment	Response
23	<p>Page 12 – “In addition to electronic data submission requirements, participating mine operators (or their environmental consultant) must provide copies of the field forms and field notes. Items of interest include low-flow groundwater sampling forms and equipment calibration records. All notes and field forms provided must be legible.”</p> <p>A time frame/schedule and submission methodology (email?) for submission of the field notes should be clarified. Ensuring accurate field monitoring and water quality measurements early on, before poor sampling practices are allowed to obtain questionable data is important for ensuring useful data.</p>	<p>All data, including field forms, are required to be submitted within 45 days of completion of each sampling event. The Work Plan has been modified to detail this.</p>
24	<p>Page 13 – “Upon completion of the three-year study, DEC will release a final report, including a summary of field work performed, data collected, summary data tables, analytical results, and maps. The report will, among other things, consider the quality of the data gathered, compare the data to available background data, review the data for any potential trends, and evaluate the potential impact of sand and gravel mining on groundwater quality. DEC will also provide recommendations and initiate permit condition adjustments as needed, based on the study results, to ensure that existing permit and monitoring requirements are protective of Long Island’s sole source aquifer.”</p> <p>Who is compiling the report? Will the mining industry, analytical labs, LI groundwater experts be involved in the preparation? If false positives in lab data are uncovered, will additional sampling be completed to confirm/refute their concentrations?</p>	<p>DEC in consultation with DOH will be compiling the report. The draft final report will be available to the public and stakeholders.</p> <p>DEC will compare the upgradient and downgradient results and make recommendations for further action on a case-by-case basis. DEC may also recommend additional confirmatory groundwater samples.</p>
25	<p>Page 13 – Report and Final Deliverables (DEC)</p> <p>SCDHS recommends that a Draft Final report be available for review and comment.</p> <p>Previously collected groundwater data (prior to this study) should be included and discussed in the final report.</p>	<p>A draft of the final report will be available to the public and stakeholders. DEC has more than 20 years of water quality data that will be considered and discussed in the final report.</p>

## Appendices Comments

No.	Comment	Response
1	<p>Page 19 – Appendix 1B Summary of Sampling Instructions</p> <ul style="list-style-type: none"> <li>o These sampling instructions should indicate that PFAS sampling protocols outlined in Appendix 2 will be followed.</li> </ul>	<p>The Work Plan indicates that Appendix 2 should be followed when performing PFAS sampling.</p>

## Vegetative Waste

No.	Comment	Response
1	It was stated that no participant has vegetative waste processing at its site. Could they have had it before or could they have reclaimed their mine with this material?	Yes, some may have processed vegetative waste in the past. If a site was approved to use material for reclamation, it would have been reviewed and approved by DEC.
2	Will the relationship of composting to groundwater quality be looked at?	Assuming there were previous composting activities, the potential impact will be assessed.

## General Question

No.	Comment	Response
1	After viewing the recent presentation on the 3-year study of sand mining dredging, and having received numerous community calls regarding sand mining dredging and concerns of possible ground water contamination, the most important question I have is, can the NYSDEC guarantee the protection of our groundwater as the sand mining companies dredge 150 feet into our sole-source aquifer?	Prior to issuing any mining permit, DEC conducts a detailed technical review to ensure that the mining operation will comply with applicable statutory and regulatory requirements. DEC subjects the applications to a transparent and rigorous review process to ensure the protection of public health and the environment. In addition, permits issued to mining operations contain stringent conditions designed to protect the environment, including the groundwater. Mining permits require that any fueling of equipment be conducted in a manner to prevent spillage. Any spills that occur at a mine must be reported in accordance with permit requirements or applicable regulations.
2	Will the lakes being created by sand mining dredging reduce the quantity of our groundwater?	The creation of water bodies would have a negligible effect on groundwater quantity. For further information on assessment of mine impacts on water quantity, please refer to the Topics about Mining on Long Island (R1) website ( <a href="https://www.dec.ny.gov/lands/123134.html">https://www.dec.ny.gov/lands/123134.html</a> ).
3	Without the sand above the water table, what is going to filter out the pollutants?	Bodies of water created by mining pose no greater threat of introducing pollutants than naturally formed water bodies.

## Permitting of Mines

No.	Comment	Response
1	During the study, would like to see no additional approvals of mining permits?	DEC will continue to review permit applications for renewals, modified and new mines and make determinations on permit issuance during the pendency of this study as required by applicable laws and regulations.
2	But surely the Department has the health, safety and welfare of Long Islanders at heart even while the administration has groped for responses to other pressing problems. Doesn't it? If it will take four years to get even a public report much less action to implement its findings, can Long Island at least be assured that, while the report is awaited, no mining will be permitted over the sole source aquifer, and certainly none below the water table? After all, isn't the whole point of doing the study to determine if mining threatens the region's water? If the report concludes sometime in 2024 or later that mining is indeed a dangerous activity on Long Island that imperils the health of the residents and, by extension, the value of their properties and the soundness of their businesses, it will have been unconscionable that such activity was allowed to continue while the study was underway. The sand has been here since the glaciers retreated and can wait for the study. People are considerably more fragile. So, is the Department doing all it can to see that mining is paused at least until the report is issue? Is it doing anything?	
3	Also noted how can we issue negative declarations for mining applications while this study is going on.	
4	Given the public trust interest in the groundwater resource of Long Island, the DEC should terminate any sand extraction activities that expose the groundwater or remove sand from deep into the aquifer system.	
5	Various other regulatory programs administered by the DEC place limits on how close to the water table certain activities are allowed to be. For example, the bottom of landfills cannot be less than 10 feet from the water table. A similar limit of 10 feet of separation is often used for wastewater discharges. Sandmining should also be limited so that 10 feet of separation to the water table is required for all sand mining above a sole source aquifer. The creation of lakes of groundwater in sole source aquifers should be prohibited.	

No.	Comment	Response
6	<p>Prior testing for sand mines exposing the aquifer.</p> <p>Sand mines that are requesting permits to dig below the aquifer should be required to provide ground water testing and monitoring results PRIOR to any approvals and this data should be part of the study and made available to the public.</p> <ul style="list-style-type: none"> <li>• CMA Mine LLC applied for a permit in February 2019 to dig an 8.5-acre “lake” to a maximum depth of 89 feet below groundwater (100 ft total depth) in Calverton.</li> <li>• Sand Highway L.L.C. on Middle Highway in East Hampton proposed expanding an existing sand and gravel mine to create a 6 acre “pond” and excavate down to 110 feet below the water table. This project got a neg dec in 2019.</li> </ul>	<p>Existing or proposed mines that seek to mine below the water table are evaluated on a case-by-case basis. Currently, DEC requires each applicant to provide detailed baseline hydrogeologic data to assist with the assessment of the potential impacts that mining into groundwater may present to the local hydrogeologic system. The mining permits may contain conditions that require the permittee to monitor up and down gradient wells and submit the monitoring data to the DEC. This monitoring begins prior to the mine excavating into groundwater. The site-specific monitoring requirements are based on a detailed technical review of the site conditions and data provided in the mining permit application. All groundwater monitoring data as well as all permit application documents are publicly available.</p>
7	<p>I am terribly concerned about the massive lake created by the sand mining in middle island. It has pierced the aquifer and now is a direct threat to the effectiveness of the aquifer in the area. The lake is now larger than artist lake. Mining has created problems for surrounding homes and threatens to undermine Birchwood at Spring Lake. I would like to see a halt to the sand mining until a comprehensive study done by the pine barrens commission is executed.</p>	<p>The purpose of this study is to determine if sand mining on Long Island is having any impact on groundwater quality. To date, the data collected by DEC have not indicated mining activities are impacting groundwater quality, but the study’s design would give us better data to determine whether or not mining impacts the aquifer.</p> <p>DEC has no information from Birchwood at Spring Lake landowners related to this claim or any evidence that this mine is having off-site impacts to nearby homes. DEC will continue to review permit applications for renewals, modifications, and new mines and make determinations on permit issuance during the pendency of this study as required by applicable laws and regulations.</p> <p>As part of the environmental review, DEC coordinates with the Central Pine Barrens Joint Planning and Policy Commission as required by their jurisdiction over these matters. Mines located within the Pine Barrens may be subject to the jurisdiction of the Commission, and additional requirements may be imposed on these permits.</p>
8	<p>How many wells are typically at a mine site?</p>	<p>There is no typical number of monitoring wells that are installed at a mine site. DEC conducts a detailed technical review of the application and determines the adequate number and location of upgradient, and downgradient wells based on a case-by-case basis necessary to ensure that mining is conducted in a method that will protect the public health and safety.</p>
9	<p>In the universe of sand mines do all mines have upgradient and downgradient wells?</p>	<p>It is not a requirement that every sand mine permitted in NYS has upgradient and downgradient monitoring wells. Mines on Long Island that have permit conditions for groundwater monitoring require the installation of upgradient and downgradient monitoring wells and that the data collected from the wells is submitted to DEC.</p>

## Land-use

No.	Comment	Response
1	<p>Concerned about mining into the water table and the goals of the study. Wondered about mining at past sites and the impacts associated with post-mining land uses, e.g., contamination that would follow from future development of the mined area. What follows mining is when risks to groundwater become most prevalent. Development will follow creation of mined properties that go into water tables due to the value of waterfront property. People want to live near water and that is a risk to the groundwater table. Therefore, the focus should be on land uses that follow mining like housing developments near ponds.</p>	<p>The post-mining land use is controlled by local zoning and land use plans. DEC approves a final reclamation objective and grants final reclamation approval. After receiving reclamation approval, DEC does not control the land use.</p>
2	<p>When reclaimed, what are the possible plans for the property at Roanoke Sand &amp; Gravel Corp?</p>	<p>After receiving final reclamation approval, the land can be used in a way consistent with the zoning for the location.</p>

## Concerns Unrelated to Study

No.	Comment	Response
1	Update on Sand Land permits. why is this here?	The matter is in litigation; therefore, DEC cannot comment on this topic
2	What is the impact of local illegal dumping of toxic materials on or near the sand mining locations?	Illegal dumping anywhere is harmful to the environment. New York State laws and regulations prohibit such activities. DEC investigates allegations of illegal waste disposal and enforces the law, holding violators accountable for their actions, requiring site cleanup and proper waste disposal. DEC has in previous cases and will continue to pursue illegal disposal cases administratively, civilly, criminally, and in collaboration with local law enforcement. Operation TrashNet and Operation Pay Dirt are among the more recent, larger, and better-known cases. Analysis of groundwater monitoring data collected around sand mines can help detect potential impacts from both onsite and offsite activities.
3	Is the cemetery near one of these lakes going to be a problem? Most concerned about preventing future problems from future development.	Mining will not impact the cemetery. Future development is outside the jurisdiction of the MLRL and is controlled by local zoning and land use planning.

## Specific Mine Question

No.	Comment	Response
1	Concerned about vibrations at one of the Middle Island sites, which has been bought recently.	DEC appreciates the concern regarding complaints about vibrations, but the review of these complaints is not associated with this study. This matter is being addressed outside of this study. The public is encouraged to contact DEC with concerns about off-site impacts of any mining operations.
2	How far is Coram Materials going into the aquifer? Is the clay lens where our drinking water starts? Is exposing the groundwater depleting our groundwater aquifer? Originally from Florida, where pumping has created sinkholes and depleted water table.	Coram Materials is authorized to excavate to maximum depth of 160 feet below groundwater which is approximately -110 feet below mean sea level. The approved mining method does not require the pumping of water, therefore does not cause a drawdown of the water table.
3	Money to prevent contamination is a fraction of what it would take cleanup contamination. Coram Material, U.S. Concrete, noted asbestos in southeast corner of this mine. Noted illegal dumping concerns. Has asbestos at Coram Materials site been completely cleaned up? What is in the capped landfill near this site (not sure which mine site = Coram)? She stated that it is/was a superfund site.	The construction and demolition debris landfill located adjacent to the Coram mine received materials including wood, concrete, brick, steel, roofing, siding, wallboard, and wiring. The landfill was closed in accordance with the NYSDEC approved plan, and the landfill was capped with an impermeable low-density polyethylene synthetic membrane. The closure plan requires continuous monitoring of on-site monitoring wells. Routine monitoring reports indicate exceedances of iron and manganese in both upgradient and downgradient wells, and results are consistent with natural ambient levels across areas of Long Island. DEC performs regular inspections of the mine and has neither witnessed nor found evidence of illegal dumping activities at the site. DEC and local law enforcement partners investigate allegations of illegal dumping. DEC pursues violators no matter the location where the illegal disposal takes place.
4	While I appreciate NYSDEC's presentation, I have additional questions. Is the superfund site located on the southwest corner of the US Concrete sand mine and currently capped as a landfill that included asbestos being considered in the study?	
5	Biodegradable fluid – he would like info on what they are using, components of the fluid may need to be tested for.	The operators of mines that use biodegradable fluids to operate their dredges have submitted SDS sheets as part of the approved mined land use plan. DEC has reviewed these SDS sheets and will incorporate this information into the study Work Plan as needed.
6	Four mining sites in Brookhaven, which are they? Is one of the mines in Colony Preserves?	The four sites located in the Town of Brookhaven are Roanoke Sand & Gravel, Coram Materials/US Concrete, Sparrow Mining of Suffolk (aka Ranco Sand & Stone), and the Town of Brookhaven site located at Tri-Hamlet Park near Colony Preserve Drive.

No.	Comment	Response
7	What is the effect of the large sod farm's pesticide application in the area adjacent to the US Concrete's mine?	The large sod farm is located hydraulically down gradient of the US Concrete mine site. Therefore, the application of pesticides at the sod farm will have no impact on US Concrete's mine site.
8	How will storm water runoff from nearby developments and roads impact the surface water of the lakes?	Stormwater from off-site sources is not directed into the mine sites.
9	What is the effect of sewer treatment plants, including Hidden Meadows and Birchwood at Spring Lake, and residential septic systems on sand mining dredging?	The approved mining method used at Long Island mines does not require the pumping of groundwater. Therefore, the groundwater flow direction will remain consistent with regional flow directions. New York regulations in 6NYCRR Part 650 require the operation of municipal wastewater treatment plants to be supervised by a certified operator to ensure the facilities are operated within their required permit specifications.
10	Meeting attendees, who reside near the Roanoke Sandmining operation, where an excavation lake has been created, informed the DEC that their local natural lake has been experiencing an ongoing drop in its water level since Roanoke began mining in the area. The connection between the two sites must be examined.	A study completed at Roanoke circa 2000 by licensed professionals indicated that mining does not significantly impact water levels beyond the limits of the mine. For further information on assessment of mine impacts on water quantity, please refer to the Topics about Mining on Long Island (R1) website ( <a href="https://www.dec.ny.gov/lands/123134.html">https://www.dec.ny.gov/lands/123134.html</a> ).
11	We are against further sand mining at the Roanoke Sand & Gravel Corp mine in Middle Island! We own a house on a road where everyone has a private drinking water well and we are concerned that further mining will affect the quality of our drinking water.	DEC required Roanoke to conduct a detailed hydrogeologic investigation prior to the permittee mining into the groundwater. The permit requires Roanoke to conduct quarterly monitoring of multiple upgradient and downgradient wells. Routine monitoring reports indicate exceedances of iron and manganese in both upgradient and downgradient wells. These results are consistent with natural ambient levels across areas of Long Island. Roanoke Sand and Gravel submitted a timely and sufficient renewal application and is authorized to continue mining at the site under the current permit.

# COMMENTERS

1. New York Senator Todd Kaminsky
2. New York Senator Anthony H. Palumbo's office
3. New York Assemblyman Fred W. Thiele, Jr.
4. New York Assemblyman Steve Englebright
5. Suffolk County Executive Steven Bellone
6. Suffolk County Legislator Sarah S. Anker
7. Commissioner Gregson H. Pigott, MD, MPH (Suffolk County Department of Health Services)
8. Director of Strategic Initiatives Ty Fuller (Suffolk County Water Authority)
9. Water District Superintendent Frank Mancini, P.G., MBA, (Town of Riverhead)
10. Gail Lynch Bailey (Middle Island Civic Association)
11. Kevin Mann (Middle Island Civic Association)
12. Adrienne Esposito (Citizens Campaign for the Environment)
13. Robert S. DeLuca (Group for the East End)
14. Kevin McAllister (Defend H2O)
15. Meave M. Tooher Esq. (Tooher & Barone, LLP)
16. Zachary Murdock Esq. (Lazer, Aptheker, Rosella & Yedid, P.C.)
17. Sarah Meyland (New York Institute of Technology)
18. Samuel W. Gowan, P.G., PhD, CPG (Alpha Geoscience)
19. John E. Gansfuss (H2H Geoscience Engineering, PLLC)
20. Kris Almskog, P.G. (PW Grosser)
21. Jim Barker (Roanoke Sand & Gravel Corp)
22. Robert Kovacs (Roux / Coram Materials Corp)
23. Louise Harrison (Public Meeting Participant)
24. Chris Regini (Public Meeting Participant)
25. Austin Remson (Public Meeting Participant)
26. Diane (Public Meeting Participant)
27. Andrea Rosen (Public Meeting Participant)
28. Tom & Barbara Reilly (Middle Island, NY)
29. Gerald Ottavino (Point Lookout, NY)
30. Janet Van Sickle (Montauk, NY)
31. Barbara Blass (Riverhead, NY)