

READINGTON TOWNSHIP BOARD OF HEALTH MEETING

August 17, 2011

Chair William C. Nugent called the meeting to order at 7:12 and announced that all laws governing the Open Public Meetings Act have been met and that this meeting has been duly advertised.

Attendance Roll Call:

Christina Albrecht	present (until 9:45 pm)	William C. Nugent	present	Wendy Sheay	absent
Jane Butula	present	Tanya Rohrbach	present	Donna Simon	present
Beatrice Muir	present				

Also Present: Board of Health Engineer, Ferriero Engineering, Inc. representative Joe Kosinski
Hunterdon County Dept. of Health – Debra Vaccarella

A. APPROVAL OF THE MINUTES

1. **Minutes** of March 16, 2011. (- Albrecht, Butula, Rohrbach vote).

Deferred.

2. **Minutes** of July 20, 2011. (-Albrecht, Muir, Sheay vote).

A **MOTION** was made by Ms. Butula to approve the minutes. The motion was seconded by Ms. Simon.

On roll call vote, the following was recorded for approval of the 7/20/11 minutes:

Ms. Butula	Aye	Ms. Simon	Aye
Ms. Rohrbach	Aye	Chair Nugent	Aye

B. CORRESPONDENCE

1. **Suspected Hazardous Discharge Notification** letter dated 7/21/11 regarding oil heating #2.
2. **Block 67/Lot 19.44** - NJDEP –dated 7/12/11 – No further action letter.
3. **NJDHSS** – Rabies cases by county and species. 1/1/11 – 6/30/11.

C. OLD BUSINESS

1. **NJAC 7:9A** extended until 7/25/13.

Chair Nugent thanked Mr. Kosinski and Ferriero Engineering for providing the updated information.

2. **HCDH Septic Repairs.**

Chair Nugent stated that he intends to check the County website prior to next months meeting.

D. NEW BUSINESS

1. **Sale of annual well test kits by the Environmental Commission and South Branch Watershed Assoc.**

Ms. Albrecht stated that the test kits will be for sale again this fall, and asked if Lorraine could touch base with the Environmental Commission secretary to fill in during lunch hour with the sale of the kits. Also if the Boardmembers would like to volunteer to assist in collecting the kits first thing in the morning, that would be greatly appreciated, the EC could use the assistance in covering.

E. APPROVALS

Category A. – Single Lots

1. **Block 74/Lot 37.03 – E. Busch, Nashed, Barley Sheaf Road.**

Escrow fees paid 5/10/11, ck#613, \$750.00.

Data mailed 7/25/11.

Heard @ 7:25 p.m.

Ms. Erica Busch, NJ licensed engineer appeared on behalf of her client, Ms. Gamilia Nashed. Ms. Busch stated that Ms. Nashed purchased this home this past year with the failing septic system, the approximate location in the back of the house failed the home inspection by evidence of water in the stone. Soil logs 1 and 2 and pit bails 1 and 2 were dug on the highest part of the property. The depth was not obtained, but there was a 48” zone of disposal, unfortunately the water came up to within 12” of the surface. The state code doesn’t allow systems within 24” of the surface, so they went back to soil log 3, in that case they had shallow refusal at 41”, so they didn’t have zone of disposal. In looking at the soil map, it is indicative of what the soils are, in the back of the property you have the Reaville, in front is the Penn-shaley silt loam. Because the ground water is so high, the applicant is requesting approval of a system that is less than 24” between

the ground surface and the water table. To reduce the size of the mound, a peat moss system has been introduced, the Eco-Pure in which the zone of treatment can be reduced by 30". A waiver is also requested for the pump system, and also the well is only 86' from the proposed system, the well casing is 50'.

Chair Nugent asked if the peat moss module being proposed was approved by the NJDEP ?

Ms. Busch stated that in a letter from 2009 the BOH approved an Eco-Pure system with the plastic or poly tank. In that letter they state that the analysis of the testing of the tank was used in part by the NJDEP in their decision to approve the Eco-Pure peat moss biofilter.

Chair Nugent stated that the board would need documentation that the concrete tank was approved by the NJDEP.

Chair Nugent complimented Ms. Busch on her design, in keeping the zone of treatment above the regional zone, inclusive of recognizing the state requirement that she needed the additional 18" of treatment.

Chair Nugent asked why there was 260' of scheduled 40 solid PVC forced main, and why it didn't go the other way.

Ms. Busch stated that she felt because there is a paved driveway, it would have to be jacked or cut, which would ruin it. It doesn't really matter, you could be further from the well.

Chair Nugent stated that now the force main is within 25' of the well, and you are adding a lot of linear feet.

Ms. Busch stated that the shortest distance would be 160', there is not a problem with it clogging, it would be almost impossible for solids to get into the forced main. The homeowner would rather go this way, and not go under the driveway.

Chair Nugent asked Ms. Vaccarella and Mr. Kosinski if there was any concern regarding the length of that line?

Ms. Vaccarella stated not at all.

Mr. Kosinski stated no, it's a gravity dosed disposal bed, so there is very little pressure built up in that line, if it was a pressure dosed bed, you'd have more pressure in the line, but it is a pump designed to lift the effluent up to the field, so there shouldn't be any concern of the length of it.

Ms. Butula asked if the engineer had walked the property, and could she testify to the wetlands ?

Ms. Busch stated that she had walked the property, and there are no wetlands within 192' of the proposed system.

Chair Nugent asked about the model # of the tank, and noted that it was not the model referred to in the design.

Ms. Butula described the deed restriction process to Ms. Nashed.

Chair Nugent asked what involvement Septic Mgmt. Group had with this project ?

Ms. Busch stated that they would probably be installing the system, whoever does has to be certified by Eco-Pure, and be on a state approved list also.

Ms. Butula stated that Ms. Busch may want to refer to the boards previous approval, of December 15, 2010. The previous requirement was that she is present for the installation and that certain items are certified.

Chair Nugent confirmed that Ms. Busch was indicating that she is the designer, and that Septic Mgmt. Group would be the installers.

Ms. Busch stated yes, that is what she intended. She was not sure if some of the other companies are approved, but she could look into that if the homeowner wished. Septic Mgmt. Group out of Florida is a distributor.

Chair Nugent asked for further clarification on what was sent to Septic Mgmt. Group to qualify her as a designer.

Ms. Busch stated that she had to send 2 previous designs she had done, a copy of this plan for their engineer to review for accuracy, and all of her pertinent business information. Additionally, she had to go on-site to observe the installation of one of their systems.

Chair Nugent asked that a revised letter be provided with the review persons' name and title, and an indication of what was submitted and reviewed.

Chair Nugent stated that he also had questions, page 1 of 2 of the map dated 5/11/11, rev. 5/30/11, note #1. Failed to mention that it would be in conformance with Readington Twp regulations.; note #27. Should be 100' from adjacent wells and 86' from this well. And in the peat moss notes, item #3., the question of frequency regarding visual inspections, how often is that to be done? It should be stipulated.

Ms. Busch stated that she believes they are done once a year.

Ms. Butula stated that the board has always asked for a copy of the signed maintenance agreement.

Chair Nugent stated that what they are looking for is the frequency of the maintenance, and it should be indicated on the plan. Also, from the applicant/homeowner, although the original deed hasn't been received, a deed restriction must be added to indicate the maintenance requirements for the system as well as stipulating that it is an alternative system design and the associated more stringent requirements.

Heard @ 8:05 p.m.

2. Block 57/Lot 12.01 – Tiedeman, Richards, Readington Road

Escrow fees paid 8/10/11, ck#1151, \$750.00.

Mr. Charles Tiedeman, NJ licensed engineer appeared before the board. This proposed alteration design is for 320 Readington Road, Mr. Steve Richards is the homeowner. This existing system, approximately 40 years old, is a bed that is saturated, there is water in the filter material, which hasn't surfaced yet. There is a septic tank and a gravity disposal bed shown on the plans in the general area. Four soil logs were conducted, the most suitable area for a replacement disposal bed was found, they were limited by depth to rock, but water movement was found in logs 3 and 4 at the depth that was suitable for a pit bail test. The pit bail test is used for the zone of disposal, it is a fill enclosed soil replacement system. There are no limitation requiring waivers, there will be new tanks, the dosing tank 100' from the well, 75' of 3" diameter connecting pipe to a center manifold pressure distribution system. With proper maintenance it should last a long time.

Ms. Butula asked if the topography was included on the boundary survey by Mr. Parker ?

Mr. Tiedeman stated that the property is very flat, the boundary survey was traced, and he used a relative benchmark which was a stoop at the rear of the house at 100, and based his design on that elevation.

Ms. Butula asked if Mr. Tiedeman had used the NJDEP GIS data indicating no wetlands, and if he had walked the property ?

Mr. Tiedeman stated yes, he did, and also reviewed the iMap information. The nearest wetlands or transition area is 400' away. There are no septic systems or wells within 150'. The client is aware of the pump system, deed restriction and maintenance requirements. The regional zone is 78".

Chair Nugent asked if there were any other questions regarding this proposed system.

There were no questions from the board.

A MOTION was made by Ms. Butula for approval for Block 57/Lot 12.01, a 3 bedroom home at 320 Readington Road, mailing address is Branchburg, NJ, 08876. The map is titled Septic System Alteration and design for existing dwelling on Block 57/Lot 12.01, Readington Twp., Hunterdon County, NJ, dated 12/31/10 prepared by Charles F. Tiedeman, P.E., NJ. A boundary survey by Daniel Parker is dated 8/28/03, topographical markings are on page 2 of the 7 submitted by Mr. Tiedeman. HCDH review letter is dated 6/20/11. This is an alteration with no expansion, mounded soil replacement pump system. Primary soil logs 3, 12/20/10, @ 106", no mottling, no hydraulically restricted horizon, seepage @ 78" after 24 hours. Soil log 4, 12/20/10, @ 107", no mottling, no hydraulically restricted horizon, seepage @ 81". Permeability is pit bail 1 in soil log 3, 12/20/10, @ 8.66', 3.08"/hour, regional water is @ 78".

Testimony from Charles F. Tiedeman confirms the absence of wetlands in transition areas, there are no septic systems or wells within 150' of the proposed septic system, which includes a deed restricted pump system that the owner is aware of, including the maintenance and filing, and return to Ms. Petzinger within 90 days.

This motion was seconded by Ms. Albrecht, on roll call vote, the following was recorded:

Ms. Albrecht	Aye	Ms. Muir	Aye	Ms. Simon	Aye
Ms. Butula	Aye	Ms. Rohrbach	Aye	Chair Nugent	Aye

The following applicant has withdrawn from the agenda:

3. Block 70/Lot 31.37 – Biggs Engr. , Larkin, Hoagland Rd.

Escrow fees paid 4/19/11, ck# 8653, \$750.00.

Previously scheduled, withdrawn 5/18/05.

Data mailed with the 7/20/11 agenda packet.

Heard @ 8:20 p.m.

4. Block 75/Lot 19 – VanCleaf Engineering, Profeta, Route 202/Summer Road.

Escrow fees paid 5/19/11, 7/19/11, 8/10/11 Cks. # 13610, 13657, 13923 \$750.00.

Data mailed 7/25/11.

Ms. Lloyd Tubman, Esq. represented Pleasant Run LLC, principal Paul Profeta, also in attendance. This is an application for the septic testing for a proposed farm stand which will be presented to the Planning Board next week. A letter report from Environmental Technologies Inc., is in the boards' packet that states that there are no freshwater wetlands or other environmental constraints within 200' of the boundary of disturbance for the entire project. The engineer this evening is Gregg Barkley, and was involved in establishing the testing protocol.

Mr. Gregg Barkley, NJ licensed engineer from Van Cleaf Engineering appeared before the board. Van Cleaf Engr. inherited this project following some testing and original work which was done by Heritage Consulting Engineers. Both

test results have been provided to the board. Van Cleef became involved in 2011 and conducted a number of soil logs, basin flood, pit bail tests concluding that there was some possibility of artesian conditions on the property. Piezometers were installed in the primary and reserve areas, monitoring from mid-January through the end of April. The drawings that were presented to the board are entitled Preliminary Septic System Detailed Site Plan for Pleasant Run LLC, Block 75/Lot 19, Readington Township, original date 5/27/2011, revision 6/20/11.

Ms. Butula asked what the use of the farm stand would be.

Ms. Tubman stated the sale of products primarily produced on the farm. There will be a preparation kitchen, prepared food for take out, fresh produce, frozen products. The entire program hasn't been worked out yet, but ordinance requires at least 50% of the produce sold is from this property. There will be a public restroom available, which is part of the site plan to be heard by the Planning Board. There will be office and conference space on the second floor.

Ms. Vaccarella stated that there is an existing well that was permitted for agricultural use rather than an irrigation well, so it was inspected by the HCDH. Because the HCDH inspected the well going in, it could be re-permitted as a domestic well.

Ms. Muir asked if this was a seasonal or year round use, and what type of heat would be used and where will that be entering the facility ?

Ms. Tubman stated year round, the useable square footage inclusive of all floors is approximately 14,000 square feet. There are solar panels shown on the roof, that will be transferred into energy. This location is at an intersection where there are several other facilities, so the utilities are available in the area.

Mr. Barkley stated that the connection would probably be wherever the closest line is directly to the building. The septic systems are actually downhill. The connecting line would most likely be on the opposite side of the building, closest to where the line is available.

Mr. Barkley stated for the primary area, there were two soil logs within 15' of the disposal bed. Soil log H-SL4 was performed by Heritage Consulting in January, 2010. Generally is topsoil 10", 10 – 48" is silty clay loam, 48 – 102" is red fractured shale, no groundwater or mottles were encountered in that soil log. Soil log V-SL10, performed by Van Cleef, 1/5/11, was about 9" topsoil, 9 – 36" silty clay loam, 36 – 94" red fractured shale, mottles were at 34 – 45", no groundwater was encountered during the time the testing was done in January.

Ms. Butula asked if he would set the regional on this soil log at 34"?

Mr. Barkley stated yes, based on the soil log testing and mottling. He would add that the piezometer testing also confirmed it.

Mr. Barkley stated that basin flood 2 was performed by Heritage near or in soil log 4 in January 2010, at 72", passing results, drained twice in 24 hours establishing the zone of disposal within the shale material that extended from 48 – 102" on one soil log, from 36 – 94" on the other. The reserve disposal area, 2 soil logs performed, one by Heritage, #8-SL7 was performed in 2/24/10, 12" topsoil, 12 – 44" silty clay loam, 44 – 96" red fractured shale, 24 hour static water level on 2/24/10 was 75", mottling was at 40" in the silty clay loam material. Soil log #V-SL6 was performed by this office on 1/5/11, 9" topsoil, 9 – 45" silty clay loam, 45 – 96" red fractured shale, mottles were at 36 – 45" in the silty clay loam horizon, no groundwater was encountered during the time the testing was done 1/5/11. Two basin floods were done around 1/5/11, #6 and 6A, both at 72", both abandoned, considered failed, they didn't drain. There was an additional soil log and pit bail test done, V-SL302-1 at the same location as pit bail 302-1 performed in 3/2/11 by Van Cleef, described as 12" of topsoil, 12 – 42" clay loam, 42 – 111" red fractured shale, seepage @ 96", 24 hour static water level on 3/2/11 – 3/3/11 was 71", the regional zone at 71". The pit bail test was performed @ 111" which is 39" below the bottom of the two basin flooding tests that were abandoned with slow movement, with a 20.8"/hour permeability rate established after a rise of over 12" during the test period.

Ms. Butula asked regarding SL7, regional zone of saturation is 47", what does that number relate to ? What is the explanation of the common medium distinct mottles at 40", why shouldn't that be the regional zone of saturation?

Mr. Barkley stated that that would be interpreted as the seasonal high water table. Since the mottles didn't extend through the bottom of the horizon that it remained underlain by 4" in this case from 40" to 44" of unmottled silty clay loam that it was considered to be perched above that because it is noted as the perched zone of saturation at 40".

Ms. Butula stated they would come back to that, but regarding 6, done by Van Cleef on 1/5/11, that regional zone was at 36" and directly correlated to the 36 – 45" mottling?

Mr. Barkley stated yes.

Chair Nugent asked regarding 6, the Form 2b does not have the 2a if mottling give reason filled in, is this an older version?

Mr. Barkley stated it is not filled in on his copy which is what was submitted but clearly it would be a regional zone of saturation.

Chair Nugent stated that that revision should be made.

Ms. Butula confirmed that the piezometers were in 2 and 2, soil log 4 for the primary, soil log 10 for the primary, for the reserve, test hole nearest log 6, and test hole 7, soil log 7.

Mr. Barkley stated that they did not put stand pipes in soil logs, piezometers were put in by a licensed well driller. There are actually 3 soil logs in the reserve area, the pit bail test also had a soil log. The piezometers were put in on 1/13/11, monitoring began on 1/21/11. There is a table in the supplemental mailing from 5/6/11 that gives all the readings from that piezometer. Generally the shallow monitoring wells were of little value because they weren't looking to prove the presence of a perched condition, but they collected data regardless. Focusing on the deeper ones, they were looking to establish the regional water level relative to the restrictive horizon for the determination of artesian conditions. Within the primary area, the deeper piezometer was installed to 138", there was 2' of screen on the bottom, groundwater levels varied from a shallowest of 16" on 3/11/11, noted less than 24 hours after a 2" rainfall, it came up very quickly and dropped very quickly thereafter. The witness refers to this as 2B, nearest soil log 10, depth 138". Groundwater levels were monitored weekly throughout the duration of the wet season. In all cases, with the exception of one, the reading was at a deeper depth than the bottom of the restrictive horizon. The side notes indicate that on the bottom of the restrictive horizon in soil log 10 was 36" and soil log 4 was 48", representing the two soil logs within the primary disposal area. The exception on 3/11/11 was following a 2" rainfall which saturated the area, within 4 days afterward the water level substantially dropped to 60". The rainfall data was substantiated by USGS information from the gauging station nearby which is about 1 mile away. The groundwater level fluctuates significantly indicating that it is not artesian because of its proximity to the bottom of the restrictive horizon and there is substantial permeability because the water levels are fluctuating.

Chair Nugent asked Mr. Barkley to restate his explanation of his conclusion that it is not an artesian ?

Mr. Barkley stated that the reading was taken on 3/11/11, the rainfall data from 3/9/11 – 3/16/11 states that the rain fell from just after midnight 3/10/11, and ended after midnight on 3/11/11. The readings that were taken that morning would have been 10 hours after the end of the 2" rainfall, and the waters came up as a direct response to that rainfall. On the 15th of March the water dropped back down to 60" or 5' below grade. There is a 43" difference in groundwater elevation in a 4 day period which means it came up quickly because of the rain and immediately dropped back down after the rain.

Chair Nugent asked if there is anything that may be referred to that specifically discounts rain as having any contribution to artesian scenarios ? It seems that this exhibits an artesian condition perfectly, whether it is caused by rain or not.

Mr. Barkley stated that because it is for such a short duration and an immediate cause and effect of a heavy rain event, in his opinion it would not affect the functioning of any system.

Chair Nugent stated that the fault of the in season groundwater monitoring is that it doesn't monitor every minute.

Mr. Barkley stated that during the 15 week duration that readings were taken, none of which showed even close to being that shallow of a reading, because of the rainfall event just preceding it, it seems that it was such an unusual event and in short duration that it wouldn't affect the functioning of the system. If it was over a long duration to bring the water level up it may be a concern.

Chair Nugent asked if piezometers or standpipes would be more accurate in representing the actual groundwater readings?

Mr. Barkley stated piezometers.

Chair Nugent stated in one of the 16 weeks monitored it did exhibit water, in reality the piezometer was there to prove that that would never occur, but it did.

Ms. Muir stated that this is a field that has been a farm field and turned over and disturbed for quite awhile, would that have any influence on the level of the water that showed?

Ms. Butula asked how far down would it be tilled?

Mr. Barkley stated typically 6", occasionally deeper, but that is typical. He did not feel that the fact that it was a farm field and tilled would have a significant affect because of the depth of the piezometer which is screened at a depth of 10' – 12'. Above that is a bentonite material that is essentially impervious to water movement plus a cement grout, so you wouldn't get water coming down around it.

Mr. Kosinski asked if there were any on-site conditions that would lead to the inconsistency of the 3/11/11 reading between the piezometer and soil log 4 and soil log 7 vs the piezometers installed in the bed ? Soil log 4 on 3/11/11 the reading was 50" and soil log 7 was 80" which is showing a regional level consistent with most of the other readings.

Ms. Butula asked if Mr. Barkley would first consider that this board went to piezometers, and observed in the field, This board is looking for why this happened, it shouldn't have happened in a rain unless there is a reason.

Mr. Barkley stated that clearly a lot of things could fluctuate in groundwater. When you get a large influx of water into an area you can cause the air in the piezometer to compress as the force comes up from below so you may get a temporary period where the water pushes up inside the well because it is open and free for movement, whereas in the normal soil there is a lot more restriction in the soil to impede the movement. The heavy rainfall may have caused it to come up quicker in the well because there was nothing to stop it. Because this happened and it was for such a short duration, he felt it would be inconsequential to the functioning of a septic system.

Ms. Muir asked if he had any previous experience or evidence of an artesian condition quickly dissipating, or does the artesian condition tend to stay? It was her understanding that an artesian condition was constant.

Chair Nugent stated the definition is any scenario where there is suspect that the conditions are such that it suggests that water may push up through and above a hydraulically restricted horizon.

Ms. Tubman stated that is why they installed piezometers in the second round with the second firm and why they did readings for 16 weeks, not 8.

Mr. Barkley stated that there were other piezometers on-site. One was upslope near the building which was to evaluate stormwater and ground water levels. There was also one downslope where another basin was proposed to be that was used for monitoring. The rainfall event doesn't show a similar rise in groundwater for whatever reason. He hasn't looked into the cause and effect, but there is something that happened here that wasn't happening regionally, in other words you aren't seeing the same increase on the other two piezometers that you did on the ones in the primary and reserve areas. Perhaps it was the proximity of a soil log nearby where excessive water was coming into it because it was loose and disturbed and it was at that general location that there was more of an influx of water coming in because of the rainfall than at the others. Chair Nugent asked what is the proximity of any other soil logs to this piezometer and what is the depth?

Mr. Barkley stated that the piezometers are approximately 35' from the soil logs on the primary the depths were 94" and 102", and about 20' on the reserve and the depths were 96" and 111".

Chair Nugent stated that the other piezometers on the property failing to exhibit a similar reaction to the rain event actually suggests even more that this particular piezometer did discover an artesian situation.

Mr. Barkley stated that it seemed because of the heavy rainfall before those readings were taken were a clear cause and effect of that high reading and because of its short duration is of little consequence to the function of the system.

Chair Nugent stated that the code states that when an artesian condition is suspected and the piezometers are installed to prove or disprove, in this case it showed that it is a possible artesian condition, that the administrative authority is not capable of approving and there is nothing to suggest an error on the install of the piezometer and on top of everything else it is the most accurate measurement mechanism. The probability of intrusion of groundwater from a rain event, even surface water getting into disturbed soil would have to travel almost 10' before it can actually reach the screened area of that what was solid pipe down to 10'. This water is coming up from 10' below and we know we have the hydraulically restricted horizon there. As to whether or not it would happen once every 16 weeks, or once every 1/2 hour, we don't know.

Mr. Barkley stated that they took the readings for 16 weeks which is a pretty significant cross section of what the wet season is. They also added information that showed that the rainfall was above normal for that time period. The vast majority of the data and the majority of them are substantially deeper than what that restrictive horizon is. It jumps out as an unusual event that can't be described as any clearer than what has been described as a short duration event that has no consequence to the function of the septic system.

Ms. Muir asked if there were any other occasions when a rain event occurred.

Mr. Barkley stated that there were other rain events, but none when the level was even close to being that high.

Ms. Tubman noted that the board engineers report differentiated between the highest reading not attributed to heavy rainfall and a significantly lower reading otherwise.

Chair Nugent stated it was duly noted. In talking about the piezometer installed between soil log HSL4 and VSL 10, noted on the witness data as 2B. The piezometer in the reserve area, close to 302-1, what was its reading?

Mr. Barkley stated that it had similar readings, from 106" on 1/21/11 to 12" on 3/11/11, and then in 4 days dropping down to 56" deeper. The difference between the piezometers is 80".

There was some discussion of what was actually happening on the rain event days.

Mr. Barkley stated that he does not perceive this to be a significant impediment to a functioning system in the long term. The design isn't part of the application, but it is part of the drawings that the board has. It has been designed very conservatively, making it a mounded system just to be on the conservative side. The mound height is 3.5'.

Ms. Muir asked if the mound could be adjusted to alleviate the situation to some degree?

Mr. Barkley stated that they could mound it higher from the 16" depth to groundwater, but now we're in the Treatment Works Approval because it is less than 24".

Chair Nugent stated that this board cannot approve an application where the regional zone of saturation is anything less than 24" from the ground surface. The board is going to have to consider 1.) does the piezometer installed and per the engineers testimony to disprove an artesian condition in reality prove it to exist? 2 holes in the ground allowed water to come up to 130" ± both allowed water to come up to 1.5' of the surface in a solid pipe with no chance of water coming in the sides. Does that not absolutely prove artesian? 2.) If that is discounted as being artesian, can we discount the fact that the regional zone of saturation as is evidenced by the tests performed anywhere from 12 – 16" in the primary? With that, this board cannot approve this application. They would have to discount the piezometer readings as anomalous, and discount the fact that they have always taken the highest reading in that in season groundwater monitoring as the regional zone. Those are two important aspects of the data presented. It would be his recommendation that each one of the board members consider the data as presented.

Ms. Tubman asked if the board engineer would give his opinion as to whether this could be an anomalous reading?

Mr. Kosinski stated that it appears both soil log #4 and #3 where the other piezometers were installed that mottling wasn't observed as it was in the vicinity of the piezometers that were installed in the bed so it is likely that the soil conditions differ slightly between those two locations. What are the engineers thoughts on that ?

Mr. Barkley stated you are correct that the one soil log #4 associated with the primary bed indicates no mottling. The other soil log does note mottling at 34 - 45" in soil log 10, no mottling in soil log 4. The reserve area soil log 6 mottles from 36 – 45", soil log 302-1 no mottles, soil log 7 mottles at 40", one of the three has mottles noted as the other two do not.

Chair Nugent asked Mr. Kosinski regarding the piezometers and Ferrieros review letter, the occurrence of the readings after significant rainfall, it goes on to say that the applicant engineer should provide testimony to confirm compliance with the code, can he elaborate on that last sentence?

Mr. Kosinski stated that when this application was discussed with Mr. Ferriero, it clearly indicates based on that reading that it does not comply with the code, unless there is a viable explanation as to why this groundwater was observed at this elevation on this date the board may not approve the system if they feel that there is a chance that regional groundwater may occur at that depth. The board may not have enough information to act. The results are inconclusive, there is mottling at a given depth, the potential for groundwater at a shallow depth.

Ms. Muir asked if the piezometers were still in the ground, and has the board ever asked that the piezometers be moved and excavation be done to determine where the mottles are?

Mr. Kosinski stated that one of the things they discussed was that the horizon may not be 100% hydraulically restrictive. Again, without seeing the logs the potential exists that there is a hanging zone of saturation in the vicinity of some of these logs.

There was some discussion as to whether or not the mottling in that area was consistent.

Mr. Kosinski stated that it seems that is what the mottling suggests.

There was some discussion as to what needed to be done in order to apply for a TWA.

Ms. Tubman stated that the other application where this happened, the board engineer signed off on DEP's application, and a resolution was provided.

Chair Nugent stated that the state would not consider the reserve area, however.

Ms. Tubman stated you could provide for two primary beds, one for a potentially expanded use in the future. This board would then deny the application and in its resolution authorize its engineer to endorse a TWA application to DEP and that resolution would accompany that application and be the authorization that DEP needs to go forward.

Ms. Butula stated that is what was done in the past.

Ms. Tubman stated you do not have to have a negative vote, you can decline to approve.

Mr. Kosinski stated that you need consent to file the application.

Ms. Butula stated that she approves of what Mr. Nugent has said, there is a lot more work to be done, and would ask Mr. Kosinski or Mr. Ferriero to rethink it. Considering that the applicant has nothing further to offer this evening, perhaps they could come back and proceed with whatever direction they decide to go in.

Ms. Tubman stated that she felt the boards reservations on this, and would suggest that they decline to approve and in their resolution authorize the board engineer to endorse on the board's behalf a TWA application. The information given is not going to change, due to the accuracy of the piezometers. It will be more cost and time to the applicant to return next month.

Mr. Kosinski stated that another concern his office had was the fact that there were failing permeability tests in the reserve disposal area and also passing tests, they would like to hear testimony regarding that, as to the suitability of it.

Mr. Barkley stated that the basin floods were at a shallower depth, the design if it got to that for the reserve area would excavate through that material into the deeper zone where there was very rapid pit bail result.

Chair Nugent stated that he would recommend deferring to the next months meeting, recognizing the applicants suggestion, he wants to give the board members ample time to contemplate the data discussed this evening. If the board senses that they will be moving toward a denial, that paperwork has to be prepared.

There was some discussion of the term endorsement.

Mr. Kosinski stated that ultimately the administrative authority needs to approve of the the design as a whole, but cannot give final approval of the design if there are any inconsistencies with 7:9A, that's the only thing the state would like to consider. They don't want to evaluate setbacks, the design needs to be complete, the county would have to approve of every other aspect of the application in advance of the TWA.

Ms. Simon asked what the difference was between the board denying or declining to approve it if then it goes to the state and they decide, why would the board deny or decline, wouldn't it go to the state anyway?

Mr. Kosinski stated that it is not necessarily a denial, the board doesn't have authority to approve of the construction of the system if it is suggested that there is an artesian condition.

Ms. Simon asked wouldn't it go to the state either way ? It seems that this may be an anomaly, but the board doesn't want to take the chance, whether it's a decline for approval or a denial.

Chair Nugent stated that there may be procedurally some difference from the boards perspective, that addresses the direction that the board should take.

There was some discussion of a resolution for this application, and that it should contain the basis for the boards concern.

Ms. Butula stated that she would like time to think about this, and also to have Mr. Ferriero and Mr. Kosinski give their opinions on it.

Chair Nugent asked for a close of this application for the evening and thanked Mr. Barkley and Ms. Tubman.

Heard @ 9:55 p.m.

5. Block 94/Lot 19 – Parker Engineering, Bugasch, Lazy Brook Road.

Escrow fees paid 1/28/11, Ck# 112, \$750.00.

Previously heard 3/16/11, approved 4/20/11.

Mr. Stephen Parker, NJ licensed engineer appeared before the board. Mr. Bugasch, the owner of the property was also in attendance. This application was approved at the 4/20/11 Board of Health meeting. At the time the tests were performed by Parker Engineering and Hatch, Mott, MacDonald. This is a new home, the Kanach farm property. Because of the depth of the basin flood, it required that the system be raised above grade, a mounded system. In order to maintain gravity flow from the house to the system, the house was raised as well. Once the construction of the home had begun, the owners wanted to see if the height of the mound could be lowered. The primary system is exactly where it was, size and shape are the same, the same with the reserve area. The only difference is that new basin flood tests were done on two separate occasions within the primary area at a deeper depth which allows them to lower the finished grade of the system and therefore lower the house as well, maintain gravity flow. That is really the only difference. The original basin floods were the appropriate and accurate depth per code.

Chair Nugent asked if there were any other questions regarding this proposed system.

There were no questions from the board.

A **MOTION** was made by Ms. Butula for approval for the data that was submitted tonight, this is Block 94/Lot 19, Parker Engineering, Mr. Bugash, Lazy Brook Road, referring to all of the approvals given to this property on April 20, 2011

The board is now amending the motion to add basin flood 102. A **MOTION** was made by Ms. Butula for Block 94/Lot 19, 84.018 acres on Lazy Brook Road. The proposal is to construct a 7 bedroom house. The map is named Septic System Design from Tax Map Lot 19/Block 94, Readington Township, Hunterdon County, New Jersey, dated 1/26/11, revisions 2/22/11, 3/16/11 and 3/18/11, prepared by Stephen E. Parker, NJ licensed professional engineer.

The surveyor was Pamela L. Matthews, licensed land surveyor. The topographical survey is dated 2/16/10, revision 7/20/10. Ferriero Engineering reports are dated 2/3/11, 2/28/11, 3/2/11 and 4/5/11. This is new construction, gravity, select fill enclosed system. For the primary, soil log 1 done on 1/20/10, @ 105"; soil log 1 by Parker Engr., @ 126", 1/20/11, no mottling, no seepage, no hydraulically restricted horizon. Soil log 3 done on 1/20/10, @ 101"; soil log 3 by Parker Engr., @ 120", 1/20/11, no seepage, no hydraulically restricted horizon, mottling @ 37 – 39", which testimony in depth by the engineer stated it is a perched zone of saturation. The permeability test is basin flood 7, @ 60", 1/20/10,

passing. The in season ground water monitoring was done 1/23/10 – 3/13/10, soil logs 1 and 3 were dry. For the reserve area soil log 4 done on 1/20/10, @ 101”; soil log 4 by Parker Engr., @ 122”, 1/20/11, no mottling, no seepage, no hydraulically restricted horizon. Soil log 6 done on 2/17/10, @ 105”; soil log 6 by Parker Engr., @ 109”, 1/20/11, no mottling, no seepage, no hydraulically restricted horizon. Basin flood 4, @ 56”, 2/17/10 – 2/18/10, passing, @ 4.67’. The in season ground water monitoring was done 1/23/10 – 3/13/10, soil logs 4 on 1/30/10 revealed water at 71” and determines the regional ground water at 71”. The original application had an LOI dated 2002, case # 1022-22-0002.1FWW020001. Note 38 indicates a concept plan, dated 11/17/06, revisions 12/7/06 and 12/15/06, by Taylor Wisemen, Mark S. Matthew, professional engineers in NJ, states that there are no wetlands or wetland transition areas within the 2 acre exception area, the location of the wetlands on this property were verified by the LOI stated previously. Mr. Parker testified to notes 27. and 36.

This motion was seconded by Ms. Albrecht, on roll call vote, the following was recorded:

Ms. Albrecht	Aye	Ms. Muir	Aye	
Ms. Butula	Aye	Ms. Rohrbach	Aye	Chair Nugent Aye

This motion is amended to add that there is a further revision to the map dated 8/2/11, it is no longer a mounded system and basin flood test 102 in soil log 1, @9.33’, passing, done 7/13/11. A Ferriero review was dated 8/10/11.

This motion was seconded by Ms. Rohrbach, on roll call vote, the following was recorded:

Ms. Butula	Aye	Ms. Rohrbach	Aye	
Ms. Muir	Aye	Ms. Simon	Aye	Chair Nugent Aye

E. ADJOURNMENT

A **MOTION** was made by Ms. Butula to adjourn at 10:20 pm, seconded by Ms. Rohrbach with a vote of Ayes all, Nays, none recorded.

Respectfully submitted:

Lorraine Petzinger
Board of Health Secretary