MINUTES

PRESENT: M. DeSapio
T. Kratzer
P. Lubitz
S. Stryker
T. Decker, Board of Health Engineer
J. Kopen, Board of Health Attorney
D. Pierce, Planning Board Attorney
V. Uhl, Township Hydrogeologist
J. Burke, Mayor
E. Niemann, Committeewoman

ABSENT: R. Phillips

CALL TO ORDER

The meeting was called to order by M. DeSapio at 8:02 PM.

NOTIFICATION

In order to ensure full public participation at this meeting, all members of this Board, and members of the public are requested to speak only when recognized by the Chair so that there is no simultaneous discussion or over-talk, and further, all persons are requested to utilize the microphones which are provided for your use by the Township. Your cooperation is appreciated.

Notification of the time, date and place of this meeting has been published in the Hunterdon County Democrat, Courier News and Express Times and has been posted in the Kingwood Township Municipal Building at least 48 hours prior to this meeting and has been filed with the Municipal Clerk.

NEW AND PENDING MATTERS

Septic Waiver – Block 35, Lot 10.02

R. Zederbaum, RBZ Enterprises, and J. Dougherty, design technician, were present this evening for the application. The home is being put up for sale. A home inspection found the existing system to be failing. R. Zederman stated they dug a tremendous series of holes on the property and they have all been consistently poor. The results were soils with no permeability. They performed a basin flood test and could not determine if any water went down. The test was a completely failing test. The property is extremely wet. They had difficulties getting a machine on to the site. The tests were performed in March. They received an essentially favorable report from the County sending jurisdiction to the local Board of Health. ASI, Advanced Septic Inspections, performed the inspection of the septic system. The property is currently vacant. The owner passed away. There is a pending sale on the property.

J. Dougherty stated the deepest test hole was 80". They performed a basin flood test that failed. They are proposing a soil replacement fill enclosed system to the 80" depth. They will be using 48" of select fill for the zone of disposal, a 48" zone of treatment, 12" of stone and then topsoil. The bed is oversized by 25%. A 3 bedroom home requires an 805 sq ft bed and they have designed a 1050 sq ft bed. The mound, at its highest, will be 4' high. The system is a pump system with a distribution box. There will be new septic tanks and a new 1300 gallon pump tank. Everything in the system meets State code except for the permeability. The house was built in the 1950's and this is probably the original system. It is a cesspool with one pipe on the side and discharged into the ground. There was no water table in their excavations. There is a lot of surface water. There are no wetlands or buffers on the State GIS mapping. The effluent will be pumped

into a distribution box and then gravity fed to the bed. The pump tank will be equipped with an alarm. The design of the system is for a 4 bedroom home.

R. Zederbaum stated the County is recommending the design to the Township. At a minimum the approval will hold the Township harmless. The County suggested a notice be placed in the deed notifying the purchaser that there is a pump port and the design is replacing a non-functioning system. The law reads the Board can only grant exceptions to the law if there is an alteration with no expansion on the building.

T. Decker stated the regulations do not address enlarging a system to compensate for poor conditions. If the County provided the percentage of 25%, it is probably what they have been seeing countywide.

R. Zederbaum stated the system they are proposing is better than what is presently existing on the property. There are no septics or wells located within a 100' radius of the disposal field. His client is not in favor of a deed restriction but would have no problem with a notification in the deed about the maintenance of the system.

The Board expressed concern about the maintenance of the proposed system and inquired if a deed restriction can be placed on the property. J. Kopen responded the current ordinance does not have a provision for that type of restriction.

T. Decker stated there are no regulations that deal with septic maintenance at the current time.

W. Powell, prospective purchaser of the property, stated he appreciates the Board's concern and it is his intent to maintain the septic system. He would like to contact his attorney prior to agreeing to a deed restriction on the property.

It was moved by T. Kratzer, seconded by M. DeSapio and carried to accept the proposed installation of the new system on the plan with a revision date of March 22, 2010, with a narrative on the deed for maintenance requirements according to the County specifications and a hold harmless against Kingwood Township. All members voted **AYE**, except P. Lubitz, who voted **NAY.**

A copy of the deed will be provided to the Township for their records.

Proposed Well Ordinance – Discussion

After a lengthy discussion and in consultation with the professionals, the Board decided on the following amendments to the current well ordinance (changes are bold and italicized):

Section 153-20

1. Basis for Ordinance. Kingwood Township does not utilize a public water supply, public water treatment facility or municipal sewage treatment facility. Kingwood Township residents, businesses, ***institutions, and farmers*** rely exclusively upon a high quality supply of ground water from private wells. The quantity and quality of the ground water is ***variable***, especially in the geologic formations known as Lockatong, Stockton and Diabase, because: ***a. groundwater occurs principally*** in fracture openings in the bedrock ***(which can be limited in some areas***), b. recharge can be limited by local soils and geology, c. new wells ***may*** impact existing wells if their ***respective*** fracture systems ***are interconnected, d. seasonal fluctuations in aquifer recharge creates a loss of volume and dilution capacity during the summer and early fall when water uses normally increase,*** and ***e*****. wells** could be subject to contamination if pollution sources, including hazardous waste ***disposal*** sites and septic systems, are located in the vicinity of a supply ***well*****.**

2. a. to ensure that new wells constructed, or increased water withdrawal(s) from an existing well(s), in Kingwood Township are able to provide a ***year-round*** reliable, safe, and adequate water supply to support intended uses within the capacity of available ground water resources;

Section 153-21 - Definitions:

12. *AVERAGE DAILY DEMAND*: The average amount of water used per day, as specified in N.J.A.C. 7:10-12.6. ***Residential wells sharing capacity with agricultural uses shall include all crop, livestock, and maintenance water demands in the total average daily demand of the well as set forth by the Pennsylvania State University's College of Agricultural Sciences (http://resources.cas.psu.edu/WaterResources/pdfs/wateruse.pdf).***

13. *BEDROOM*: Any room within a dwelling unit, furnished or unfurnished, which is used to, or which may reasonably be expected to provide sleeping quarters for one or more individuals. The term bedroom shall be considered, in absence of any evidence to the contrary, to include any room on any floor above the lowest floor ***having*** a door ***separating that room from the remainder of the dwelling unit*** and which has no through traffic.

36. ***SEASONALITY: Normal fluctuation in aquifer level and volume due to cyclical changes in recharge between seasons, resulting in lower aquifer levels in summer and early fall because of increased water usage together with decreased recharge stemming from increased evapotranspiration.***

Definition of Township Qualified Hydrogeological Consultant to be added.

Section 153-23:

2. Application for Well Construction Permit. A State Well Permit is a prerequisite to the issuance of a Kingwood Township Well Construction Permit. Application must be made on forms prescribed by the Administrative Authority titled "Kingwood Township ***Board of Health Well Construction Permit Application***." When a Hydrogeologic Report is required as stated in §153-25, an Aquifer Test Plan (described in §153-29.3) must be submitted to and approved by the Administrative Authority before issuance of a Well Construction Permit. The application must include, ***as required by the Kingwood Township Well Construction Permit Application checklist,*** a copy of the receipt for submission of a well construction permit to the Hunterdon County Department of Health.

3. Map. Scale to fit on 8.5-inch by 11-inch paper, ***prepared*** by a licensed surveyor. All applications shall include ***three (3)*** copies of a plot plan showing the location measured from at least two property or main structure corners, of all new well(s), all pre-existing well(s), all existing subsurface disposal areas and all soil test points (e.g., percolation test pits) for potential subsurface disposal areas. All identifiable pre-existing wells and existing subsurface disposal areas shall include those on adjoining properties that are located within two hundred (200) feet of the boundary of the subject property, whether located on the subject property or on an adjoining property, shall be depicted on the plot plan or at the applicant's option, by depicting the same on a survey based on as-built information obtained from Hunterdon County records that show the location of any such wells and subsurface disposal area. Latitude and longitude for the new and pre-existing wells shall be recorded. If the lot that is the subject of the application is a flag lot, the distance indicated previously in this paragraph shall be measured from the main body of the lot, and the "stem" of the flag shall not be included in calculating such distance.

4. One copy of the plat application in an electronic pdf format is required to be submitted at the time of the application.

5. Certification of Taxes paid as current at time of submission of application to be obtained from Township Tax Collector.

Section 153-24:

1. New water supplies, new water wells or altered water wells constructed in the Township of Kingwood shall not be placed in service, nor shall new dwellings or buildings or additions to existing buildings, ***which require an increased water demand,*** be used or occupied until the administrative authority shall have issued a certificate indicating that the said water supply has been located and constructed in compliance with the terms of the well construction permit. If a ***newly-***drilled ***well*** delivers 10 or more gallons of water per minute and a well-water sample is ***analyzed for the parameters required by the State [Enter regulation section number(s) here] and complies with the water quality standards,*** a construction permit shall be issued. ***If any of the analyses are not within the required water quality limits, a treatment plan, prepared by a Qualified Hydrogeological Consultant or Certified Professional Engineer, must be supplied to the Kingwood Township Board of Health within 30 days. A seasonal pump test must be completed during the next testing period of July 1 through October 31. If the water supply is less than 10 gallons per minute, the applicant must wait for the seasonality period for testing. If the well yields 1 gallon a minute or less, a storage plan, prepared by a Qualified Hydrogeological Consultant, must be provided to the Kingwood Township Board of Health within 30 days . The well yield results must be witnessed by a Township appointed witness. The New Jersey Geological Survey Ground-Water Report Series No. 1, Two-Part Pump Test for Evaluating the Water Supply Capabilities of Domestic Wells, worksheet pages 10 & 11 must be completed by the certified well driller. All measurements for gallons per minute will be done using a volumetric method (calibrated bucket and stop watch) and three different measurements and will be conducted to average the tested well yield.***

The basis for an increase in water usage will be discussed between V. Uhl and J. Kopen for appropriate language. The standards for the storage plan will be reviewed by V. Uhl and J. Kopen and the appropriate language inserted. Section 153-26(11) should be referenced here in regard to the storage plan.

2. (1) Forms. Any such application submitted to the Administrative Authority for approval or certification shall be made on forms prescribed by the Administrative Authority under the title "Application for Certification of Well". Copies of forms required by N.J.A.C. 7:10-1 et seq. , properly executed Forms DWR-138 "Well Record" (issued by NJDEP) and the "Kingwood Township Well Testing Report" ***shall be completed by a certified professional engineer or hydrogeologist and/ or licensed well driller and*** shall be submitted to the Administrative Authority, with the "Application for Certification of Well." The applicant shall submit ***three (3)*** copies of the ***completed Well Certification Application and checklist*** and all supporting materials. The Secretary of the Administrative Authority shall forward one copy of the application and all supporting materials to the Township Hydrogeological Consultant for review.

Section 153-25 Applicability.

1. Except as stated in Table 1 (*Applicability and Timing for Types of Water Uses1*), all provisions of this Ordinance shall apply to all applications to the Administrative Authority for Certification of Well. Advance Notice of Test Dates is required for all pump tests for all new and existing wells. ***See section 153-28(1)(a) and 153-29(f).***

Table 1: Applicability and Timing for Types of Water Use.

Type of Water Use Daily Demand Value and ***Number of New Lots***	Applicability for Certification of Well		Timing of Well Certification

	153-28 Three-Part Pump Test	153-29 Aquifer Test & Hydrogeologic Report	
Existing improved or unimproved residential lot with a proposed daily demand of ≤ 800[1] gallons	YES	N/A	Prior to issuance, renewal or extension of Building Permit
Existing improved or unimproved residential lot with a proposed daily demand of > 800 gallons	N/A	YES	
Residential lot that is part of an approved subdivision with an approved Hydrogeological Report	YES	N/A	
Change in Use[2] that requires additional water when the total daily demand will be > 800 gallons, unless the well has been previously certified for the amount of water proposed	N/A	YES	Prior to approval of Change in Use[2]
Subdivision creating one (1) new lot	YES	N/A	Prior to issuance, renewal or extension of Building Permit
Subdivision creating two (2) or more new lots	N/A	YES	Prior to approval as to suitability of subdivision
Agricultural Subdivision creating one (1) new lot	YES	N/A	Prior to issuance, renewal or extension of Building Permit
Agricultural subdivision creating two (2) or more new lots	N/A	YES	Prior to issuance, renewal or extension of Building Permit
Non-residential or multiple residence uses ≤ 800 gpd	YES	N/A	Prior to preliminary site plan approval
Non-residential or multiple residence uses > 800 gpd	N/A	YES	

Any use ≥ 100,000 gpd	Obtain NJDEP Water Allocation Permit
Public water systems	

[1] An equivalent of 4 bedrooms (200 gpd/bedroom) ***as per New Jersey Geological Survey Ground-Water Report Series No. 1, Two-Part Pump Test for Evaluating the Water Supply Capabilities of Domestic Wells,***
[2] Any new or expanded water use that was not part of the original well certification (i.e., providing an off-site water supply, addition of bedroom(s), and other non-certified water uses), or in addition to the estimated water use (based on N.J.A.C. 7:10-12.6) if no certification was required at the time the well was installed. Off-site water supply shall only be conveyed to an adjacent single-family residence.

Section 153-26 Physical Construction Requirements.

2. Spacing. No new well shall be located at a distance less than 100 feet from any approved well or subsurface disposal area. New wells shall be located upgradient from subsurface disposal areas ***for all subdivisions. Lots less than 4 acres in an existing subdivision that have a minimum of 6 soil tests that present a very limited (Note: include soil types) area of acceptable conditions for a subsurface disposal system, and are located upgradient, within 200 feet of an existing or proposed new well, may make written request for a waiver from the Administrative Authority for the location of the subject disposal area, which request shall be heard at the next regularly scheduled meeting of the Kingwood Township Board of Health occurring not less than thirty (30) days following the submission of the written request . If a waiver is granted by the Administrative Authority, all new or altered wells within 200 feet downgradient of the disposal area shall have casing lengths of no less than 100 feet as measured from the top of the bore hole.*** The spacing requirement for wells may be waived for multiple wells (only), on single lots that serve one individual residence, to not less than 50 feet.

3. Due to the potential for the creation of new and/or expanded fractures, a distance of 200 feet (200'), or more, is required between any new or existing well being hydrofractured and any nearby approved wells and subsurface disposal areas. ***Hydrofracturing shall not be permitted for any wells installed, or altered, within 200 feet downgradient of an existing or proposed subsurface disposal system.***

a. Property Owner Notification - Owners of existing wells on lots located within 200 feet of the property boundary of the proposed hydrofracturing shall receive notification in letter form titled "Notification of Three Part Pump Test", which form is available from the Township, of the scheduled hydrofracturing date(s) from the applicant or their representative, via certified mail, four weeks prior to the hydrofacturing date. Copies of all property owner notifications shall be provided to the Administrative Authority prior to the mailing. The applicant shall obtain a certified list of all property owners within 200 feet of the property boundary from the Township Tax Assessor. If the lot that is the subject of the application is a flag lot, the distance indicated previously in this paragraph shall be measured from the main body of the lot, and the "stem" of the flag shall not be included in calculating such distance.

8. Disinfection. Any well used ***for water-level measurements*** during a ***pumping/aquifer*** test must be chlorinated at the end of the pump test in accordance with procedures recommended by the Hunterdon County Health Department.

Section 153-27 - General Requirements for Three Part Pump Test and Aquifer Test

2. Witnessing. The Administrative Authority reserves the right to witness all well tests. A minimum of two working days Advance Notice of Test Dates shall be provided to the Administrative Authority. The Administrative Authority reserves the right to ***schedule alternative*** testing dates in case of scheduling problems.

5. Discharge. The discharged water must be channeled away, at a minimum distance of 100 feet, from the wellhead to minimize direct recharge of the ***aquifer*** during the test. Any and all permits required by the NJDEP for the discharge of water must be obtained prior to starting the test.

6. Dip tube. All test wells must have a "dip tube" installed ***to allow accurate*** measurement of water levels during the pump test. The water level must be measured to the nearest tenth of a foot from a fixed point (measurement point); e.g., from the top of the well casing.

7. Evaluation of General Requirements. Failure to adhere to these general requirements will invalidate the test results. Pumping tests shall be performed from July ***1*** through October ***31*** to adequately account for seasonal effects on aquifer levels.

A cross reference to Section 153-24 (1) should be added.

Section 153-28 – Three Part Pump Test

1. General Requirements

a*) Property Owner Notification.** ***Owners of existing wells on lots located within 200 feet of the property boundary of a proposed or new or altered well, as set forth in section 153-25A, Table 1, shall receive notification in letter form titled "Notification of Three-Part Pump Test", which form is available from the Administrative Authority, of the scheduled well test(s) from the applicant or their representative, via certified mail, four weeks prior to the well test date. Copies of all property owner notifications shall be provided to the Administrative Authority prior to the mailing. The applicant shall obtain a certified list of all property owners within 200 feet of the property boundary from the Township Tax Assessor. If the lot that is the subject of the application is a flag lot, the distance indicated previously in this paragraph shall be measured from the main body of the lot, and the "stem" of the flag shall not be included in calculating such distance.

b) Three-Part Pump Test. The capability of a well to meet the peak demand and the total daily requirements of its user shall be evaluated through a three-part pump test. The three parts are the Peak Demand Test (§ 153-28.2); Constant Rate Test (§ 153-28.3); and Well Recovery Test (§ 153-28.4). The well must pass the ***Peak Demand and Constant Rate*** Tests as required for the size of the facility to be supported by the well. The result of the Constant Rate Test shall determine, according to § 153-28.3.c, the maximum size of the proposed residence or non-residential facility to be supported by the well. The result of the Well Recovery Test provides additional data about the suitability of the well for extended use.

c) Technique. The three-part pump test must be performed in one continuous operation as specified in § 153-28.2, § 153-28.3, and § 153-28.4. The test well must be at its Static Water Level at the beginning of the test, i.e., the well has to be undisturbed for at least 72 hours before testing. If the test sequence has to be interrupted for technical reasons, the well must be pumped to the drawdown observed just prior to the interruption before the test sequence can be resumed. If more than 24 hours ***elapse*** during interruption, the entire test must be rerun.

2. Peak Demand Test

c) Evaluation of Results. To pass the Peak Demand Test, the well must not be drawn down anytime during the test to a level less than five (5) feet above the pump intake or to a level less than thirty feet (30') above the bottom of the well, whichever is higher. If the results of the Peak Demand Test are unsatisfactory, the well may be altered or used in conjunction with additional wells, or the design of the proposed facility must be so modified as to lower the Peak Load requirements sufficiently to accommodate the performance of the well. ***See 153-28(c)(3).***

3. Constant Rate Test

b) Test Protocol. The Constant Rate Test is undertaken in sequence with the Peak Demand Test regardless of whether or not the well passed the Peak Demand Test. The pump discharge rate should be as close as possible to the Peak Demand Rate, but the main objective is to achieve a stable water level while pumping. A constant head condition exists where the water level does not change more than 0.5 feet (six inches (6")) per hour under a constant pumping rate. The water level shall be measured and recorded, at a minimum frequency of every five (5) minutes during the test. The Constant Rate Test is run for a full four (4) hours. ***Water quality evaluation must be done during the constant rate test as defined in 153-29(i).***

Well Yields less than 1.0 gpm shall be considered unusable to support residential use, unless a Qualified Hydrogeological Consultant demonstrates professionally-accepted techniques to the Administrative Authority that would allow for a residential water use of at least 400 gpd (equivalent of 2 bedrooms) without adverse effects to the well, or neighboring wells, based on Drought conditions for the period of July through October. ***Professional-accepted techniques will be further defined.***

Section 153-29 <u>Aquifer Test and Hydrogeologic Report.</u>

1. Purpose. An Aquifer Test is a three-part test conducted to obtain background, pumping, and recovery data from a pumping well and observation wells in order to determine aquifer characteristics and assess potential well interference. The Hydrogeologic Report shall include a review of available information and Aquifer Test results and analyses in order to evaluate whether the aquifer can provide a reliable, safe, and adequate water supply to support intended uses within the capacity of available ground water resources, and to ensure that new wells do not unduly infringe upon the performance of existing wells. Aquifer Tests shall be designed to yield the most accurate information concerning the aquifer and to identify locations most likely to be marginal or problematic. All methodologies used in this analysis and report shall be in conformance with recognized ***hydrogeologic*** practice for ground-water hydraulics.

3. Aquifer Test Plan. An Aquifer Test Plan provides details about the proposed field work required for the Aquifer Test and Hydrogeologic Report. An Aquifer Test Plan shall be submitted, together with a Preliminary Hydrogeologic Report, at the times stated in §153-25.3 Table 1 "***Applicability and Timing for Types of Water Use***." The design of the Aquifer Test shall be developed using the applicable guidance from "Guidelines for Preparing Hydrogeologic Reports for Water Allocation Permit Application with an Appendix on Aquifer - Test Analysis Procedures" NJGS GSR 29 (1992 or most recent edition) or successor document. The Aquifer Test Plan must include the estimated Daily Demand Value for each proposed well, and the project as a whole; and the location and technical specifications for each proposed test well and observation wells. Review of the Aquifer Test Plan includes submission of such test plan to the Township Hydrogeological Consultant for review and recommendations. Review of the Aquifer Test Plan must be completed by the Township Hydrogeological Consultant, and the Plan must be approved, approved with conditions, or disapproved, within 45 days of receipt of the Plan. Before the Township Hydrogeological Consultant approves any Aquifer Test Plan, the Township Hydrogeological Consultant must review the proposed Aquifer Test Plan with the Administrative Authority. The Aquifer Test Plan shall be finalized before issuance of a Well Construction Permit and before the Aquifer Test can proceed. Review of results of the Aquifer Test and any individual Three-Part Pump Tests must be completed by

the Township Hydrogeological Consultant, and the results must be approved, approved with conditions or disapproved within 60 days of receipt of the well testing data.

Table 3:

*** ***At the discretion of the Township Hydrogeological Consultant.***

d) Distance between wells. All wells must be located in accordance with the minimum distances required by N.J.A.C. 7:10-12.12. Depending on the total number of observation wells, as specified in §153-29.5a Table 3, one (1) to five (5) observation well(s) shall be located between 100 feet and 500 feet of the pumping well, and three (3) to seven (7) observation well(s) shall be located between 500 feet 1,000 feet of the pumping well. Based on local ***hydrogeologic*** and site specific conditions, the Qualified Hydrogeological Consultant will determine the number of observation wells within the specified distance from the pumping well and may locate up to five (5) observation wells between 1,000 feet and 2,500 feet of the subdivision/site plan boundary.

6. Use of Existing Wells as Observation Wells.

a) Property Owner Notification. Owners of existing wells on lots located within 2,500 feet of the subdivision/site plan boundary shall be given an opportunity to have their wells monitored during the aquifer test. The applicant shall obtain a certified list of all property owners within 2,500 feet from the Township Tax Assessor. Notification of ***such opportunity shall be given by the applicant in letter form, which form is available from the Admistrative Authority, titled "Notice of Aquifer Test", via certified mail, and shall give the time and place of the aquifer test.*** The notice shall indicate that such existing well may be monitored if agreed to by the well owner provided the well is readily accessible. Such notice shall indicate that the existing well owner must respond within ***fourteen (14)*** days ***of the mailing*** and the applicant's responsibility is to monitor up to the number specified in Table 3 for off-site observation wells.

b) Response. ***If the owner(s) of the lot within 2,500 feet of the subdivision/site plan boundaries agrees to have their existing well monitored, they shall execute the Access Agreement and return it to the applicant by certified mail within fourteen (14) days of receipt of the certified notice from the applicant.*** If the applicant receives no response within the time provided, the response shall be deemed to be negative. If more homeowners agree to participate than the required number of observation wells, the selection of wells will be made by the Township's Hydrogeological Consultant. A return response for notification of the selected well owners, and date and time of the well pump test(s) shall be delivered by the applicant via certified mail to those interested lot owners within 2,500 feet of the subdivision/site plan boundaries. The return response must be received by the homeowner at least four (4) weeks prior to the well test(s).

c) Insurance. The applicant shall provide a certificate of insurance for itself and all contractors utilized ***to the Administrative Authority prior to the conduct of the testing*** and pay all costs associated with the monitoring of any existing residential well.

f) Protection of monitored wells. All reasonable efforts must be made to protect the potability of water from the monitored well. All wells shall be chlorinated (using the Hunterdon County Health Department's recommended procedures) ***at the end of each*** time they are opened for service or monitoring, unless the owner specifically waives the requirement of chlorination in writing. If ***requested***, bottled water shall be provided by the applicant to the residents utilizing off-site wells selected for inclusion in the Aquifer Test while the chlorine is detected above the acceptable limits of chlorine in potable water.

g) Selection of Wells for Monitoring. When property owners within 2,500 feet of the subdivision/site plan boundaries decide to participate and ~~to~~ have their ~~existing~~ wells monitored, it is the applicant's responsibility to monitor up to the number of wells specified in Table 3. However, if any of the property owners requesting monitoring have wells that are supported with public records to have been completed to a depth less than 100 feet, these wells must also be monitored in addition to the requirements for observation wells in Table 3. The observation wells on neighboring properties shall be selected to assess if the drawdown from the pumping well will extend beyond the subdivision/site plan boundary in any direction.

7. Preliminary Hydrogeologic Report. The ***Preliminary*** Hydrogeologic Report shall be submitted with the Aquifer Test Plan at the times stated in §153-25.3 Table 1 "Timing of Well Certification." The following is a minimum outline:

8. Aquifer Test Protocol.

v. If the proposed diversion's effect on nearby wetlands or ***surface*** water bodies is of concern, then these should be monitored.

10. Final Hydrogeologic Report.

c) Analyses: The final hydrogeologic report shall provide calculations of important aquifer characteristics such as transmissivity and storage coefficient as detailed in NJDEP GSR 29. The radius of influence for the test as determined from observation wells shall be provided. Determination of ***the interaction*** between the surface and ground water hydrology on, and within 500 feet of the site boundary shall be provided, if proposed. The impact on adjacent land owners shall be described. The overall assessment of the aquifer test compared to data developed in the preliminary hydrogeologic report shall be detailed, specifically variations in expected response of the aquifer.

11. c) Pumping Phase.

i. If the pumping rate does not exceed the average daily demand by 120 percent or the peak-day demand cannot be pumped within a 24-hour period, the aquifer beneath the site will be deemed insufficient to meet the proposed water use demands, and the applicant must reduce site demands and development units. ***Question was raised if additional wells could be installed.***

v. If the pumping data indicate a change in aquifer transmissivity as a result of fracture dewatering, all analyses of the potential radius of influence and impacts to neighbors, streams, and wetlands must be conducted using the lowered aquifer transmissivity. If this lowered transmissivity indicates that the anticipated demand cannot be supported by the aquifer beneath the site, the applicant must reduce the site demand and development units. ***Question was raised if additional wells could be installed.***

d) Recovery Phase. If water-level recovery is less than ninety percent (90%) of full recovery in the pumping well or any observation well(s) at the end of the recovery phase, of the same duration as the pumping phase, the applicant must show, through professionally-accepted ~~***standards for***~~ aquifer test analytical procedures and calculations, that the well or wells are capable of full recovery. If full recovery cannot be shown or ground water mining/dewatering has occurred, the applicant must reduce the site demand and development units to allow the proper recovery.

e) Observation Wells.

ii. If a drawdown of 5 feet or more is noted in any existing adjacent property well, or is projected at any property boundary, then the aquifer will be deemed to have insufficient transmissivity/***storage*** to support the proposed subdivision/site plan. The applicant must reduce the site demand and development units to ensure that drawdown will not exceed 5 feet at any site boundaries.

g) Water Quality.

ii. If results of the Trela Douglas nitrate dilution model predicts unacceptable nitrate levels *for any of the new or existing wells within the improved or unimproved buildable lots of the subdivision* ~~in the new or existing wells~~, then the site demand and*/or* development units must be reduced. Model simulations must reflect low-recharge summer season and Drought conditions. (Reference: Trela, J.J. and Douglas, L.A., 1978, Soils, septic systems and carrying capacity in the New Jersey Pine Barrens: paper presented at the First Annual Pine Barrens Research Conference, Atlantic City, May 22, 1978, 34p.) ***The appropriate dilution model will be provided by T. Kratzer or V. Uhl.***

iii. A groundwater quality monitoring program is required for residential subdivisions with three or more lots (initially or as an aggregate over 10 years), ***or*** any residential, public or nonresidential water use of greater than or equal to 1,500 gpd. Subdivisions with three to 14 lots or any residential, public or nonresidential water use from 1,500 gpd to 2,000 gpd, shall install and use a single monitoring well. Monitoring well(s) will be established at a location not more than 200 feet down-gradient from the lowest building site elevation, or in line with the natural path of runoff from the developed area, whichever location best represents an intercept for subsurface transport of pollutants from the developed sites. Selected monitoring site(s) and well depths will be reviewed by the Township ~~*Qualified*~~ Hydrogeological Consultant. Monitoring wells will be sampled for background water quality as per §153-29.9. Water samples shall be collected and analyzed from these wells by a New Jersey State Certified Laboratory for a period of twelve (12) years. The monitoring program shall be the responsibility of the Applicant's Qualified Hydrogeological Consultant, in coordination with a selected New Jersey State Certified Laboratory, for sample collections, well security and sanitation, and decommissioning of the well(s). During the first year, a sample shall be collected and analyzed for each season (i.e., summer, fall, winter, and spring). Thereafter, samples shall be collected semi-annually, rotating between spring-fall, and summer-winter season collections. Data will be submitted, semi-annually, to the Township Hydrogeological Consultant, Board of Health, and Planning Board for comparison with the background data to determine if the water quality has changed. An additional water quality monitoring well and sampling program is required for each additional 10 lots or part thereof, or additional residential, public, or non-residential water use of 2,000 gpd or part thereof.

Section needs to be added to provide for a hearing on either side.

153-30 Waiver Criteria

1. As is also set forth in Section 153-26 (2), lots less than 4 acres in an existing subdivision that have a minimum of 6 soil tests that present a very limited (Note: include soil types) area of acceptable conditions for a subsurface disposal system, and are located upgradient, within 200 feet of an existing or proposed new well, may make written request for a waiver from the Administrative Authority for the location of the subject disposal area, which request shall be heard at the next regularly scheduled meeting of the Kingwood Township Board of Health occurring not less than ten (30) days following the submission of the written request . If a waiver is granted by the Administrative Authority, all new or altered wells within 200 feet downgradient of the disposal area shall have casing lengths of no less than 100 feet as measured from the top of the bore hole. The spacing requirement for wells may be waived for multiple wells (only), on single lots that serve one individual residence, to not less than 50 feet.

153-31 Documentation

The applicant shall submit ***five (5)*** copies of the Aquifer Test Plan, Preliminary Hydrogeologic Report, Proof of Property Owner Notification, Final Hydrogeologic Report, and Water Quality Monitoring Results (semi-annually, when applicable) to the ***Administrative Authority*** for distribution to the Township Hydrogeologic Consultant and ***Planning Board*** office, ***written or in pdf format***.

153-33 Hearing Upon Denial of Permit or Certificate.

In case any permit or certification required by this Ordinance is denied by the Administrative Authority, a hearing shall be held thereon before the Administrative Authority within ***thirty (30)*** days after request therefore is made by the applicant, and upon such hearing the Administrative Authority shall affirm, alter or rescind its previous determination and take action accordingly within ***thirty (30)*** days after the date of such hearing.

153-35 Fees.

3. Review of Storage Plan: $300.00 escrow deposit per well;

6. Escrow For Rehabilitation and Monitoring.

a) Well-water supply. Establishment of an Escrow account for remediating any unforeseen detrimental effects of a proposed development upon existing wells, both interior and exterior to the project boundary, are to be required as a condition of approval of any subdivision or site plan application. A deposit of $3,000 into escrow shall be required for each new well. This escrow fee shall not be required if a new well is being drilled to replace an existing failed well. A deposit of $200 into escrow shall be required for every 100 square feet, or portion thereof, of building floor space for which site plan approval is granted. Subdivisions resulting in the creation of only 1 new lot are exempted from the $3,000 escrow requirement. Whenever a resident submits a claim that their well has been rendered unusable by a development, the Township ~~*Qualified*~~ Hydrogeological Consultant shall review the applicable facts and circumstances and determine whether the development has rendered the existing well unusable. If the Township ~~*Qualified*~~ Hydrogeological Consultant determines that development has rendered the existing well unusable, then the owner of the well so affected shall be entitled to have the cost of rehabilitation or replacement of his well paid from the escrow funds. Escrow shall be held for a duration of twelve (12) years at which time any residual will be returned to the then-***owner of the land at the end of the escrow period.*** ~~***but in no event shall any refund be issued prior to the expiration of six (6) years from the completion of construction of a new well.***~~ ***Escrow deposits held by the Township for well rehabilitation and well monitoring shall not be returned to the applicant unless the applicant is the landowner at the expiration of the escrow period.***

b) Water-quality monitoring. Establishment of an Escrow account to fund water quality monitoring shall be required as a condition of any subdivision or site plan approval, pursuant to section §153-11.g.iii. A deposit of $2,800 into escrow shall be required for each new well. A deposit of $150 into escrow shall be required for every 100 square feet, or portion thereof, of building floor space for which site plan approval is granted. Escrow shall be held for a duration of twelve (12) years at which time any residual will be returned to the then- ***owner of the land at the end of the escrow period.*** ~~***but in no event shall any refund be issued prior to the expiration of six (6) years from the completion of construction of a new well.***~~ ***Escrow deposits held by the Township for well rehabilitation and well monitoring shall not be returned to the applicant unless the applicant is the landowner at the expiration of the escrow period.***

8. ~~***Escrow deposits held by the Township for well rehabilitation and well monitoring shall not be returned to the applicant unless the applicant is the landowner at the expiration of the escrow period.***~~

It was moved by P. Lubitz, seconded by M. DeSapio and carried to authorize J. Kopen to prepare the amendments reflected above to the well ordinance for introduction at the May 19, 2010 meeting. All members present voted **AYE** on **ROLL CALL VOTE.**

Approval of Minutes

It was moved by P. Lubitz, seconded by M. DeSapio and carried to approve the minutes of March 17, 2010. All members present voted **AYE** on **ROLL CALL VOTE.**

CORRESPONDENCE

PRIVILEGE OF THE FLOOR

A. Belle was present this evening to comment on the proposed amendments discussed this evening. He inquired if sub-notation "3" on Table #1 was eliminated. D. Pierce responded it was eliminated. He inquired, in 153-26(11) dealing with storage, does it consider the well depth? V. Uhl stated well bore storage makes sense in a low yield well but peak demand must be considered. A. Belle inquired, in Table #1, what language was changed? D. Pierce stated in subdivisions, both agricultural and non-agricultural, it will refer to "new" lots created. A. Belle stated the heading should be amended to add "number of new lots". J. Kopen stated it could be added. A. Belle inquired, under Groundwater Quality Monitoring Section 153-29(iii), the greater than 1500 gpd was being applied as an aggregate on a subdivision rather than a new lot. D. Pierce stated the sentence should read "A groundwater quality monitoring program is required for residential subdivisions, with three or more lots (initially or as an aggregate over 10 years) ~~on~~ ***or*** any residential, public or nonresidential water use of greater than or equal to 1,500 gpd.

ADJOURNMENT

It was moved by P. Lubitz, seconded by M. DeSapio and carried to adjourn the meeting at 11:23 PM. All members voted **AYE**.

Respectfully submitted,

s/Diane Laudenbach

Diane Laudenbach, Secretary