

## **TOWN OF GERMANTOWN HYDROGEOLOGICAL STUDY REQUIREMENTS**

### **SECTION 1.0 INTRODUCTION**

Hydrogeological studies are required for certain development activities as specified below. The purposes of such hydrogeological studies are to: (1) assess the adequacy of the available groundwater supply to support the proposed development; and (2) evaluate the potential impacts for adverse impacts upon any nearby groundwater users and surface waters. Hydrogeological studies as set forth in this document are based on both on-site testing, and existing and readily available information.

Hydrogeological testing and evaluation shall be performed by a qualified consultant approved by the Town of Germantown Planning Board. Work shall be performed or directly supervised by a licensed or certified professional geologist who has related project experience in Columbia County. Alternatively, work may be performed or directly supervised by a licensed professional engineer who is experienced in performing groundwater studies and has related project experience in Columbia County. Where not specifically defined in this document, the methodology used for testing and evaluation shall follow generally accepted professional hydrologic and hydrogeologic practices and standards.

### **SECTION 2.0 APPLICABILITY**

Hydrogeological studies are required for two general types of land development projects: (1) certain residential subdivisions utilizing on-site ground water and/or on-site sewage disposal; and (2) other types of development that utilize relatively large amounts of on-site ground water and/or dispose of a high volume of sewage on-site (see specific thresholds below).

A hydrogeological study must be performed for any new subdivision involving ten (10) or more lots that relies upon either on-site ground water withdrawals and/or on-site sewage disposal. A hydrogeological study must also be performed for any new subdivision involving five (5) or more lots that relies upon on-site ground water withdrawals and overlies an area with average well yields of less than 5 gallons per minute as indicated on Figure 7 of the Town of Germantown Groundwater Protection Plan prepared by the New York Rural Water Association. Eight (8) copies of a hydrogeological study for such a subdivision must be submitted to the Town of Germantown Planning Board in conjunction with submission of the preliminary plat. The hydrogeologic study must be formally approved prior to approval of the preliminary plat.

A hydrogeological study is also required for any type of proposed development project with on-site groundwater withdrawals and/or on-site sewage disposal flows potentially equal to or exceeding an average of two thousand (2,000) gallons per day (gpd) during any single thirty (30)-day period. These types of projects could include, but are not limited to, recreational developments (golf courses, water theme parks, etc.), multi-family housing (apartments, condominiums, townhouses, etc.), industrial, or commercial

developments. Ten (10) copies of a hydrogeological study for such a development project is required to be submitted to the Town of Germantown Planning Board as part of the site plan review process indicated in the Town's zoning regulations.

### **SECTION 3.0 BACKGROUND EVALUATION**

A background evaluation and analysis of the regional and site specific hydrogeologic conditions should be conducted using readily available existing resources such as publications and/or data from the U.S. Geological Survey (USGS), U.S. Environmental Protection Agency, U.S. Department of Agriculture's Natural Resources Conservation Service (formerly the Soil Conservation Service), New York State Geological Survey, New York State Department of Environmental Conservation, New York State Department of Transportation, New York State Department of Health, Columbia County Health Department, etc. At a minimum, the evaluation shall include the area within approximately one (1) mile beyond the project boundary.

The evaluation and analysis shall include the following:

- Topographic information from USGS mapping and other sources.
- Property maps, aerial photographs, and land use data (for example from real property classifications).
- Geologic maps and data reports (well logs, water quality analyses, geologic information, soils data, etc).
- Existing well data and descriptive statistical summary of the same (e.g. minimum, maximum and mean of well data, etc.)
- Existing research reports, hydrogeologic reports, etc.
- Locations and identifications of all wells within a minimum of 1,500 feet of the proposed development boundaries, including public water supplies.
- Existing and potential contaminant sources of record or those observed on site and within a minimum of 1,500 feet of the project site boundary. An attempt shall be made to verify sources of record by field reconnaissance.
- Preliminary field verification of existing geologic information including rock outcrops, bedrock fractures, karst features, linear features, photo linears, etc.
- At sites with bedrock outcrops, fracture orientations (strike and dip measurements) shall be measured and documented in the report. The number and orientations of linear features or photo lineaments shall be analyzed and correlated with documented bedrock fractures.

- Evaluation of the site hydrogeology and the occurrence, quality, and quantity of ground water.

## **SECTION 4.0 TESTING REQUIREMENTS**

### **Section 4.1 Water Supply Testing for Applicable Subdivisions**

#### **A. Wells**

1. The applicant must submit a plan to the Town of Germantown Planning Board showing the locations and construction details of proposed test wells. The Town of Germantown may approve, approve with conditions, reject, or request more information within 45 days of receipt of such a well plan.
2. Well construction and testing shall be performed by a certified water well contractor (NYS Environmental Conservation Law 15-1525) in accordance with Appendix 5-B of 10 NYCRR Part 5 (Standards for Water Wells).
3. Pumping tests should be conducted during a period of time of average or below average seasonal stream flow conditions (typically not during the months of March, April, and May).
4. Where individual wells are proposed for each lot, test wells shall be installed and tested on at least twenty percent (20%) of the proposed lots and on at least forty percent (40%) of the lots having a portion of the lot situated in an area with average well yields of less than 5 gallons per minute as indicated on Figure 7 of the Town of Germantown Groundwater Protection Plan prepared by New York Rural Water Association. The purpose of these wells is to provide evidence that the hydrogeologic system is capable of furnishing and sustaining the potable water needs of the proposed development.
5. Test wells may be used as designated lot wells if they meet all requirements of Appendix 5-B of 10 NYCRR Part 5 (Standards for Water Wells).
6. For wells that will be used for public water systems, all test wells shall also be located, constructed, and protected in accordance with Appendix 5-D of 10 NYCRR Part 5 (Special Requirements for Wells Serving Public Water Systems) as well as other applicable portions of Subpart 5-1 of 10 NYCRR.

7. Where individual wells are proposed for each lot, test well locations should provide a representative geographic distribution across the proposed subdivision.
8. Where individual wells are proposed for each lot, test well sites shall include wells in each bedrock and/or unconsolidated geologic unit in which wells are proposed.
9. Where individual wells are proposed for each lot, test wells shall be situated in each topographic setting that wells are proposed on the subdivision (i.e. high areas, low areas, sloping areas, etc.).
10. Where individual wells are proposed for each lot, an adequate number of test wells should be installed on adjacent lots in the proposed subdivision in order to evaluate potential adverse impacts to adjacent wells.
11. If there are existing, off-site wells within 1,000 feet of the subdivision, test well(s) should be located in order to evaluate the potential for adverse impacts to these existing wells.
12. If any portion of the subdivision is located within 100 feet of a surface water body or wetland, and individual wells are proposed for each lot, at least one well should be located between 25 and 100 feet of such surface waters in order to determine potential adverse impacts and groundwater quality issues.
13. A well log must be submitted to the Town for each well drilled, along with a copy of the New York State Department of Environmental Conservation Well Completion Report.
14. Where individual wells are proposed for each lot, physical or chemical alteration of geologic materials or structures (e.g., hydraulic fracturing, use of explosives, or addition of chemicals) to increase yield of test wells will not be permitted prior to the pumping test.

B. Formation Sampling

1. During all drilling, representative samples shall be collected for each unconsolidated and consolidated geologic formation encountered. The applicant shall retain these samples and provide them to the Town if requested.
2. A well driller certified in accordance with NYS Environmental Conservation Law (ECL) 15-1525 or a certified/professional geologist shall complete and submit to the Town a well log for each test well constructed for the investigation. The log shall describe materials

encountered during drilling (unconsolidated and consolidated materials), and indicate the depth below ground surface of each material change. The log should be indicated on the New York State Department of Environmental Conservation Well Completion Report.

C. Pumping Tests

1. The applicant must submit a plan to the Town of Germantown Planning Board showing the wells that are to be pump tested, along with water level monitoring locations, surface water bodies and wetlands, possible pumping rates, discharge locations, schedules, and laboratory water quality testing details. The Town of Germantown may approve, approve with conditions, reject, or request more information within 45 days of receipt of such a testing plan.
2. No pumping should be conducted at or near the test well site for at least 24 hours prior to the test.
3. A pumping rate shall be used that reasonably stresses the aquifer but does not result in excessive drawdown in the well. The minimum acceptable pumping rate for the test shall be two (2) gallons per minute. However, a water well that yields a pumping rate of at least 5 gallons per minute is usually necessary to safely meet peak and daily needs of most residences.
4. A test pump capable of providing a minimum of 2 to 5 gallons per minute at the required head must be used to perform the test. Any pump failure must have no significant effect on the data or a similar termination and restart is necessary.
5. The pumping rate shall be measured using a flow meter installed in the discharge line along with a control valve. The flow meter shall be calibrated at the beginning of the pumping period (all calibration measurements shall be recorded). The discharge flow rate shall be monitored and recorded at least once every 15 minutes during the first hour of the test and every 60 minutes thereafter.

For relatively low flow rates, (< 5 gallons per minute), the flow rate may be obtained by determining the time required to fill a container of known volume (e.g., a 5-gallon bucket). The number of seconds/minutes to fill the container and the exact time of day shall be recorded.

6. The pumping test should include a minimum four-hour period of stabilized drawdown while pumping occurs at a constant flow rate. During the period of stabilized drawdown the stabilized water level shall not fluctuate more than plus or minus 0.5 foot (i.e., within a vertical tolerance of one

foot) for each 100 feet of water in the well (i.e., initial water level to bottom of well) over the duration of constant flow rate of pumping. During the duration of constant flow rate pumping, the pumping rate shall not vary by more than 10 percent.

7. Water level measurements must be made to the nearest 0.01 foot. Preferred measurement methods include electronic sensors and pressure transducers.
8. Water level measurements in the pumping well and in at least two (2) of the closest available test wells are required immediately before the start of the test and during the pumping test at the following intervals:

<b>Time After Pumping Started</b>	<b>Time Intervals</b>
0 to 15 minutes	5 minutes
15 to 120 minutes	15 minutes
120 to 360 minutes	30 minutes

Note that all wells within a minimum distance of 500 feet of the pumping well shall be monitored, including any off-site wells (if practicable).

9. The water height of any bodies of water within 500 feet of the pumping well shall be monitored prior to the test, hourly during the pumping test, and at the end of the recovery period (see item 11).
10. Water discharged from the pumping well must be discharged a sufficient distance from the pumping well and other measured wells to avoid possible impacts from re-circulating the water. The water should be discharged to a drainage ditch or swale that will direct the water away from the well(s) if possible. If necessary, a temporary water storage tank can be used.
11. Upon completion of the pumping portion of the test, water level measurements should be recorded at the pumped well until the water level recovers back to at least 90 percent of the initial water level or for a period of 24 hours, whichever occurs first. If the water level does not recover to 90 percent of the initial water level after 24 hours, the tested flow rate may not be sustainable for an extended period of time.
12. A check valve must be installed at the base of the pump column pipe in the pumping well to eliminate backflow of water into the well during the recovery period.

13. For public water systems, all test wells shall be tested in accordance with Appendix 5-D of 10 NYCRR Part 5 (Special Requirements for Wells Serving Public Water Systems) as well other applicable portions of Subpart 5-1 of 10 NYCRR. In addition for community water systems, pump tests will follow NYSDEC Appendix 10, TOGS 3.2.1 (Recommended Pump Test Procedures for Water Supply Applications).

D. Laboratory Testing for Water Quality.

1. Water quality samples should be collected at the conclusion of the pumping test.
2. Water quality samples should be analyzed for the following: coliform bacteria, lead, nitrate, nitrite, iron, manganese, sodium, chloride, pH, hardness, sulfate, alkalinity and turbidity.
3. Additional tests for petroleum products or solvents may be necessary if the pumping well is located in the vicinity of a spill, petroleum storage facility, or other similar land use.
4. Tests for hazardous substance list metals, PCBs, and pesticides may be necessary if the pumping well is located adjacent to a landfill, junkyard, etc.
5. Analyses for specific chemicals may be necessary if the pumping well is located near an industry that stores and/or uses particular chemicals.
6. For public water systems, all test wells shall be tested for water quality in accordance with Subpart 5-1 of 10 NYCRR including Appendix 5-D of 10 NYCRR Part 5.

**Section 4.2 Water Supply Testing For Other Developments with Groundwater Withdrawals and/or On-Site Sewage Disposal Flows  $\geq$  2,000 GPD**

A. Geology

1. During all drilling, representative samples shall be collected for each unconsolidated and consolidated geologic formation encountered. The applicant shall retain these samples and provide them to the Town if requested.
2. A well driller certified in accordance with NYS Environmental Conservation Law (ECL) 15-1525 or a certified/professional geologist shall complete a well log for each test well constructed for the investigation. The log shall describe materials encountered during drilling (including unconsolidated materials), and indicate the depth below ground surface of each material change. The log should be indicated on the New York State Department of Environmental Conservation Well Completion Report.

B. Wells

1. The applicant must submit a plan to the Town of Germantown Planning Board showing the locations and construction details of proposed test wells. The Town of Germantown may approve, approve with conditions, reject, or request more information within 45 days of receipt of such a well plan.
2. Well construction and testing shall be performed by a certified water well contractor (NYS Environmental Conservation Law 15-1525) in accordance with Appendix 5-B of 10 NYCRR Part 5 (Standards for Water Wells).
3. For water wells that will serve a public water system, the location, protection, construction, yield, etc. of such wells shall be in accordance with Appendices 5-D and other applicable portions of Subpart 5-1 of NYCRR Title 10.
4. A well log must be submitted to the Town for each well drilled, along with a copy of the New York State Department of Environmental Conservation Well Completion Report.

C. Pumping Tests

1. The applicant must submit a plan to the Town of Germantown Planning Board showing the wells that are to be pump tested, along with water level monitoring locations, surface water bodies and wetlands, possible pumping rates, discharge locations, schedules, and laboratory water quality testing details. The Town of Germantown may approve, approve with conditions, reject, or request more information within 45 days of receipt of such a testing plan.
2. A pumping test shall be performed on each well that is to be utilized by the proposed development in order to determine that the water supply adequately meet the needs of the applicant without adversely affecting others who may rely on the same aquifer.
3. For public water systems, all pumping tests shall be conducted in accordance with Appendix 5-D of 10 NYCRR Part 5 (Special Requirements for Wells Serving Public Water Systems) as well other applicable portions of Subpart 5-1 of 10 NYCRR. In addition for community water systems, pump tests will follow NYSDEC Appendix 10, TOGS 3.2.1 (Recommended Pump Test Procedures for Water Supply Applications).

3. Pumping tests should be conducted during a period of time of average or below average seasonal stream flow conditions (typically not during the months of March, April, and May).
4. No pumping should be conducted at or near the test well site for at least 24 hours prior to the test.
5. Pumping tests should be done when nearby wells normally in operation are running. Pumping of such other wells in the test area should be monitored.
6. A test pump capable of providing the design flow rate at the required head must be used to perform the test. Any pump failure must have no significant effect on the data or a similar termination and restart is necessary.
7. The pumping rate shall be measured using a flow meter or circular orifice weir installed in the discharge line along with a control valve. The flow meter or weir shall be calibrated at the beginning of the pumping period (all calibration measurements shall be recorded). The discharge flow rate shall be monitored and recorded manually at least once every 15 minutes during the first hour of the test and every 1 to 4 hours thereafter.

For relatively low flow rates, (< 5 gallons per minute), the flow rate may be obtained by determining the time required to fill a container of known volume (e.g., a 5-gallon bucket). The number of seconds/minutes to fill the container and the exact time of day shall be recorded.

8. The pumping test(s) shall be conducted at a pumping rate at least equal to the design pumping rate. If multiple wells are to be pumped simultaneously to achieve the necessary yield, the test should incorporate such a pumping plan.
9. Water discharged from the pumping well must be discharged a sufficient distance from the pumping well and other measured wells (minimum 200 feet) to avoid possible impacts from re-circulating the water. The water should be discharged to a drainage ditch or swale that will direct the water away from the well(s) if possible.
10. Water from the pumping well cannot be discharged into any water body or wetland if such discharge results in turbidity or erosion leading to turbidity or down stream flooding. If it is anticipated that discharged water will create flooding, erosion and/or turbidity, water must be directed to a holding area and released in a controlled manner to prevent such problems.

11. The selected pumping rate shall not vary by more than ten (10) percent during the test. Pumping rates should be frequently measured and recorded, following the schedule of the water level measurements (see below).
12. Pumping tests shall be conducted for a minimum of 72 hours at a constant pumping rate. A minimum of six hours of stabilized drawdown must be displayed at the end of the test. Stabilized drawdown is defined as a water level that has not fluctuated by more than plus or minus 0.5 foot for each 100 feet of water in the well. If stabilized drawdown is not achievable, the test period may be extended or semi-log extrapolation of drawdown versus time (or other similar methods) may be employed to demonstrate the ability of the aquifer to supply a pumping rate equal to the desired yield.
13. Water level measurements must be made to the nearest 0.01 foot. Preferred measurement methods include electronic sensors and pressure transducers.
14. Periodic water level measurements in the pumping well and in the observation wells are required immediately before the start of the test and during the pumping test at the following intervals:

<b>Time After Pumping Started</b>	<b>Time Intervals</b>
0 to 15 minutes	1 minute
15 to 50 minutes	5 minutes
50 to 100 minutes	10 minutes
100 to 500 minutes	30 minutes
500 to 1000 minutes	1 hour
1000 to 5000 minutes	4 hours

15. At least three (3) observation wells should be monitored on-site during the pumping test. Note that all site wells shall be monitored, as well as any off-site wells within 1,000 feet (if practicable). Observation wells should be located at varying distances from the pumping well in order to characterize the well's zone of pumping influence. Observation wells should be large enough to allow accurate and rapid measurement of the water levels. Observation wells should be screened in, or open to, the same formation as the pumping well.
16. The water height of any bodies of water within 1,000 feet of the pumping well shall be monitored before the pumping test, every four hours during the test, and at the end of the recovery period (see item 17).

17. Water level measurements should be collected during the recovery period for all wells using the same procedure and time pattern followed at the beginning of the pump test (see item 14). Measurements at the pumping well should continue for at least 24 hours or until the well recovers to 90 percent of the original water level.
18. A check valve must be installed at the base of the pump column pipe in the pumping well to eliminate backflow of water into the well during the recovery period.
19. Rainfall should be measured to the nearest 0.01 inch and recorded for one day preceding the pump test, during the test, and during the recovery period.

D. Laboratory Testing for Water Quality.

1. Water quality samples should be collected at the conclusion of the pumping test.
2. Water quality samples should be analyzed for the following: coliform bacteria, lead, nitrate, nitrite, iron, manganese, sodium, chloride, pH, hardness, sulfate, alkalinity and turbidity.
3. Additional tests for petroleum products or solvents may be necessary if the pumping well is located in the vicinity of a spill, petroleum storage facility, or other similar land use.
4. Tests for hazardous substance list metals, PCBs, and pesticides may be necessary if the pumping well is located adjacent to a landfill, junkyard, etc.
5. Analyses for specific chemicals may be necessary if the pumping well is located near an industry that stores and/or uses particular chemicals.
6. For public water systems, all test wells shall be tested for water quality in accordance with Subpart 5-1 of 10 NYCRR including Appendix 5-D of 10 NYCRR Part 5.

## **SECTION 5.0            REPORTING REQUIREMENTS**

The detailed hydrogeologic report shall include, at a minimum, the items described below. Note that the all data shall be organized by either “type” (well completion reports, pumping test data and analyses, water quality reports, etc.) or by well, in tabbed appendices clearly marked showing the content of the tabbed section.

### **A.        Description of the Proposed Development**

The proposed development project must be summarized including information on property acreage; projected water demand; means of wastewater disposal; stormwater runoff control; parking areas and other impervious surfaces; fuel storage; and the number, size and distribution of proposed residential lots (if applicable).

### **B.        Discussion of Site and Regional Hydrogeology**

A written discussion of the site and regional hydrogeology shall be included. Items to be included in this discussion include:

1.        Geologic setting;
2.        Local drainage and watershed(s);
3.        Lateral and vertical distribution of local unconsolidated and consolidated hydrogeologic units as well as their hydraulic properties;
4.        Land surface elevation and relief;
5.        Occurrence and flow characteristics of surface water and ground water;
6.        The relationship between local ground water and surface water;
7.        Well yield and depth data;
8.        Local groundwater use and quality; and
9.        Known or potential contamination sources.

Appropriately-scaled maps and cross-sections should be used to depict the hydrogeologic setting (see below).

### **C.        Maps**

A set of maps at appropriate scales covering the proposed development should be enclosed. The maps shall contain all existing planimetric features, topography, all proposed roads, proposed lot lines, proposed lot sites, proposed house sites, proposed septic systems, surface water features, proposed and existing wells, bedrock outcrops, karst features, linear features, springs, hydrogeologic units, etc. In addition, map(s) of static groundwater elevations shall be illustrated, along with maps showing drawdown contours and pumping groundwater elevations.

#### D. Cross-Sections

The report shall contain one or more cross-sections, at true horizontal scale and vertical scale (exaggerated as appropriate). The location of each cross-section shall be shown on the plan view map(s) and the cross-section shall contain the following information:

1. Geologic data including bedrock contacts and structural features if present.
2. Well site locations showing well casings, total depths, and specific capacities.
3. Elevations of ground surface, bedrock depths, and static water surfaces.
4. Final water level in each pumped well and observation well(s) at the end of the pumping tests with the corresponding pumping rate of the well.

#### E. Well Completion Reports

For each well drilled for the investigation, a New York State Department of Environmental Conservation Well Completion Report will be completed and enclosed. This will include a log of materials encountered that is completed by a certified well driller or a licensed/certified professional geologist. Well construction details will also be noted on each Well Completion Report, including the well number, date of construction, well location coordinates (lat/long, UTM, or State Plane), land surface elevation, total depth, well casing depth, grout depth, bentonite seal thickness, top and bottom of well screen, height of casing above land surface, static water level and date, etc.

#### F. Well Construction Summary

For all wells constructed for the investigation, a summary table will be provided that includes, at a minimum, the well number, completion date, land surface elevation, well diameter, total well depth, well casing depth, screened interval (if applicable), depth to bedrock, static water level (all on the same date), well yield, and aquifer.

#### G. Well Testing Summary

In a separate table(s), well testing results shall be summarized, including at a minimum: the well number (and pumping well number if different); date tested; duration of pumping; pumping rate; pre-pumping (static) water level; maximum observed water level drawdown; distance to pumped well; percent of available drawdown used (assume maximum available drawdown is 40 feet above well bottom or use more stringent criteria if appropriate); specific capacity; transmissivity; storativity (if available); and time to achieve 90 percent recovery (or the percent recovery after 24 hours) in the pumped well. Note that the analytical method used to calculate the aquifer transmissivity and storativity should be noted. All pumping test data will be included in the appendices.

## H. Groundwater Quality

For all wells tested for the investigation, provide a table summarizing the groundwater quality and include the maximum contaminant levels (MCLs) for each tested parameter. Copies of the laboratory reports shall be included in the appendices.

## I. Water Balance

The report shall contain groundwater mass balance and recharge estimates for the area. Applicable calculations and references shall be included as well as assumptions and limitations of the methods used. The report shall include a discussion of the following information, including appropriate supporting calculations and diagrams, which shall include, at a minimum:

1. Identification of the source or sources of recharge, using recharge from rainfall for normal conditions and for drought conditions (assume 60% of average annual precipitation), and the average outflow from the development area.
2. Comparison of calculated recharge to projected withdrawals associated with the development.

## J. Potential Impacts to Water Quality

The report shall contain an analysis of potential impacts to groundwater and/or surface water quality that may result from the development. For example, this could include a discussion of impacts from fuel storage, stormwater runoff, nitrate loading associated with septic system effluent, etc.

Calculations should be developed and discussed in the report to estimate the overall loading of inorganic nitrogen to ground water from the development's subsurface wastewater disposal systems (if applicable). In general, the nitrate entering the ground water can be computed for a given area by dividing the annual nitrate load from the area by the annual amount of groundwater recharge (see above). Both normal and drought conditions should be assumed. In order to prevent cumulative degradation of groundwater quality in the region, the resultant projected nitrate level in ground water at the project boundary should not exceed ½ of the MCL (5 mg/L).

## K. Potential Impacts of Pumping

The report will present an analysis of the magnitude and extent of water level drawdown that will result from groundwater withdrawals at the project as well as an evaluation of potential impacts of drawdown on groundwater and surface waters within a minimum of 1,500 feet from the development boundary. This analysis will be developed using standard methods and will include an analysis of potential conditions during normal and

drought periods. The possibility of other adverse affects of pumping such as altering the flow direction of groundwater from potential pollution sources, introducing zones of poor water quality, etc. must be discussed as well. For community water system wells, the zone contributing ground water (zone of contribution) for such wells must be delineated.

L. Suitability of Groundwater Resources

The consultant must prepare a preliminary written conclusion regarding the suitability of groundwater resources to support the proposed development. A comparison of projected water demands to available source capacity should be included. If applicable, mean and median yields of lot wells must be presented and compared to the 5 gallons per minute usually necessary to safely meet peak and daily needs of a typical residence. In addition, the possibility of wells on the remaining (non-tested) individual lots having inadequate yield must be discussed. Plans on how to overcome potential inadequacies must be addressed.

The adequacy of the development's drinking water quality should be evaluated. The possibility of contamination from on-site and off-site sources must be assessed. Any necessary treatment options should be identified.

M. Investigation and Mitigation Plan

The report must include a plan for investigating and mitigating existing water supply wells or surface waters in the event that either experience reductions in water level or water quality during and/or after construction of the development.