



Miller Hydrogeologic Incorporated

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April 17, 2017

Town of Thompson Planning Board
C/O Mr. Lou Kiefer, Chairman
4052 Route 42
Monticello, NY 12701

Re: Hydrogeologic Review
Ground Water Supply Assessment
Gan Eden Estates
Towns of Thompson and Fallsburg, Sullivan County, New York

Dear Mr. Kiefer;

At the request of Town of Thompson Planning Board Miller Hydrogeologic, Incorporated (**MHI**) has conducted a review of the hydrogeologic information submitted in support of water supply development for the proposed project Gan Eden Estates partially located in the Towns of Thompson and Fallsburg, Sullivan County, NY. Our review that the report will serve as a submission to the New York State Department of Health (NYSDOH) and the New York State Department of Environmental Conservation (NYSDEC) for purposes of water use and water withdrawal permitting by each individual agency is based on statements contained in the water supply assessment work plan prepared by the proposed Gan Eden Estates applicant's hydrogeologist, HydroEnvironmental Solutions, Inc., Somers, New York, (HES) submitted to Mr. Glen Illing, NYSDOH and dated August 9, 2016.

It should also be noted that the project site is within the purview of Delaware River Basin Commission (DRBC) which according to the Delaware River Basin Compact requires the DRBC to develop and administer a comprehensive basin plan and water resources program. Part of the water resources program requires all projects who intend to use basin water resources in excess of 100,000 gallons per day for 30 consecutive days be reviewed and approved by the DRBC. Under the one permit program the DRBC relies on appropriate permitting procedures for water use from the involved state agencies. While a permit application to the DRBC will be required for the Gan Eden Estates project the DRBC will refer to the requirements of the NYSDEC in terms of permits approval.

While **MHI** is not part of the permitting process conducted by the DRBC, NYSDOH or the NYSDEC nor does **MHI** suppose that they have any involvement with either commission or state agencies' formal review and permitting process, **MHI** has prepared, submitted and received water supply



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use permits to State agencies for both public and private entities and considers itself qualified to comment on the Gan Eden Development groundwater supply assessment report in terms of completeness for submittal to both the NYSDOH and the NYSDEC. **MHI** also reviewed the report to determine if the local groundwater supplies can be considered adequate for meeting the projects proposed overall water supply needs and determine the potential long term effects of the proposed project on the local groundwater flow system. For reference purposes copies of the DRBC Administrative Manual Rules of Practice and Procedures 18 CFR 401, the NYSDOH Appendix 5-D: Special Requirements for Well Serving Public Water System and the NYSDEC Appendix 10, TOGS 3.2.1 Pumping Test Procedures for Water Withdrawal Permitting are presented in Attachment 1.

MHI's review consisted of the report and data prepared by HES and titled *Groundwater Supply Assessment, Proposed Gan Eden Estates, Thompson and Fallsburg, New York, February, 2017*. In order to develop a conclusion on the adequacy of the aquifer to supply a safe yield of groundwater as required by the proposed project **MHI** reviewed each section of the report in terms of its content and ability to support the report's final conclusion and to meet the basic submission requirements of both the NYSDOH and NYSDEC. Therefor our comments, questions and concerns presented below are on a report section/sub-section basis.

INTRODUCTION

The report introduction indicates that pump tests were conducted to determine the long term yield of four proposed wells according to the guidelines set forth by the NYSDEC and the NYSDOH for municipal water supplies. The term pump tests is used throughout the report to refer to the testing that was conducted on the projects wells. This is not a term used in engineering or hydrogeology to describe aquifer testing. Pump tests are used by pump installers to confirm that a pump is operational. Pumping or aquifer tests are conducted to determine the hydraulic characteristics of an aquifer and the aquifer's ability to supply water. While this may seem like simple semantics, it is common industry standard reporting terminology and the terms misuse may reflect on the ability to accept the reports final conclusions. It is also important to indicate that our review indicates the tests conducted did not completely follow the guidelines of the NYSDOH and the NYSDEC which, as will be discussed later, present questions on the report's conclusions concerning the determination of the sites long term groundwater availability.

Finally the report indicates that two tests that were conducted at the site. **MHI** only has received a work plan to conduct one aquifer test (dated August 9, 2016) and no additional information concerning a modification to the first work plan describing the conduction of a second test or a work plan for the conduction of a second test.



BACKGROUND

Water use and Demand

The report references testing that were conducted previously at the site on wells originally installed by Leggette, Brashears and Graham, Inc. (LBG) in 1989. LBG drilled several wells and conducted several aquifer tests to define the groundwater availability at the site. LBG concluded that the TW-5 and TW-6 test wells were adequate to meet the projects average daily demand at that time of 82 gpm. The long term safe yield of the TW-5 well was determined to be 140 gpm and TW-6 to be 200 gpm. According to today's NYSDOH requirement of well yields capable of twice the average daily demand the TW-5 well would be inadequate for the then planned 82 gpm. The report contains a well log prepared by LBG but does not identify any fracture zones encountered. LBG prepared well logs indicate approximately 16 feet of overburden material for wells TW-5 and TW-6.

The report indicates that 8 hour step-drawdown tests were conducted on the TW-5 and TW-6 wells in 2008. An 8 hour test is a total of 480 minutes of pumping. A review of the 2008 report(contained in Appendix 1) and figures describing the drawdown suggest that the step drawdown test was conducted for 3 steps over a 6 hour period for a total of 360 minutes (2008 report, figures 3 and 4) and not 8 hours as indicated. The 2008 report repeatedly refers to the test as consisting of 8 hours while the plotted data only shows 6 hours. This discrepancy between the data presented in the figures and the text should be explained. Step drawdown tests are generally conducted to obtain well completion efficiencies and determine approximate long term testing rates. Various commonly available methods are available in the hydrogeologic literature to determine well efficiencies and pumping rates based on the results of step drawdown testing. No well efficiency information is given based on the results of the step drawdown testing and no explanation of how the proposed long term testing rates were determined for the TW-5 and TW-6 test wells is presented.

The report indicates that water supply test wells TW-3, TW-5 and TW-8 were selected to serve as the project's main supply well and TW-6 to serve as the emergency backup supply well. HES had concluded from their own testing in 2008 that the well capacities for the TW-5 and TW-6 wells are 150 gpm and 210 gpm, respectively. These rates are greater than those determined by LBG for TW-5 and TW-6 of 140 gpm and 200 gpm, respectively. The report indicates that the required pumping for the proposed project will be 102.4 gpm and that the wells need to demonstrate a long term safe yield of 204.8 gpm (twice the average daily usage). The report also indicates that the NYSDOH guidelines would require development of four times the projects daily demand. This is an inaccurate statement. The NYSDOH requires that a backup water supply be demonstrated that is equal to the proposed maximum daily water usage. This usage is not additional water but a backup supply to be used in the event a mechanical failure of the main water supply. Since the backup water supply, by definition, will not operate during the main water supply's usage it does not have to be an additional source but can be completed in the main supply source aquifer. Commonly additional backup supply well(s) are installed adjacent to the main supply well(s) in order to comply with the NYSDOH requirement of equal pumping capability and to minimize the required infrastructure. The well selection, not the NYSDOH or NYSDEC requirements dictated the total water withdrawal requirement.



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Site Geology

While the site geology is accurate in its description its relevance to describing the ability of the bedrock aquifer to yield water is absent. No information is given concerning the ability of the upper unconsolidated material or the underlying bedrock to supply water. The report should supply a general description of the projects site hydrogeology which are germane to a water supply study such as the local three-dimensional direction of groundwater flow and flow conditions (confined or free surface) and any potential boundary conditions present (recharge and/or barrier) which may affect the proposed production wells abilities for maintaining a long term yield.

Pumping Test Structure

72-Hour Pump Tests

The report indicates that a groundwater sample was collected for analysis according to the NYSDOH “(DWS) Full Part V Analyzer” after at least 24 hours of pumping. Section 12 of the NYSDEC Appendix 10, TOGS 3.2.1 specifically indicates that all water quality samples must be obtained from the pumping well during the last hour of pumping, or the 71st hour for the tests conducted at the Gan Eden site. The testing did not follow NYSDEC test procedures for water withdrawal permitting. Also it is not clear what a “(DWS) Full Part V Analyzer” is as it does not appear in any documentation of guidelines as published by the NYSDOH or the NYSDEC for permitting of water withdrawals.

The depth that a pump is set in a well is generally controlled by the depth of the screened interval for an unconsolidated sand and gravel well and by the depth and extent of fracturing in bedrock wells. Water levels during pumping should not be lowered within a sand and gravel well screened interval or below the major fracture zone in a bedrock well to reduce the potential for air and potential contaminants from entering the groundwater. Since no detailed NYSDEC well driller logs are available which describe the extent of fracturing and potential source of the majority of groundwater in the bedrock wells it is impossible to determine a realistic well pump depth setting.

Report Figure 2 used to show the locations of the wells being tested, observation wells, piezometers and surface water monitoring locations does not meet the requirements of the NYSDEC Appendix 10, Togs 3.2.1 pumping test procedures for water withdrawal permitting. Section 7 of TOGS specifically states that all pumping and observation wells need to be surveyed within 0.1 feet horizontally and 0.01 feet vertically at the top of casing and reported in NAVD 1988 or NGVD1929 depending on the test site location. No survey information is available for the wells which does not follow the NYSDEC guidelines and, as will be discussed later, significantly impacts the ability to properly describe the results of the testing. Figure 2 should be revised to accurately present the locations of the on-site proposed pumping wells and monitoring wells, piezometers and surface water staff gauges.

Surface Water Monitoring

Surface water staff gauges were installed to monitor water levels during the well testing. No information is given concerning the location of the gauges in the corresponding water body or how the



water level data was collected. Surface water gauges are generally installed in pairs in order to determine the potential effects of pumping and induced infiltration from surface water to groundwater. One gauge is installed upstream outside the potential cone of depression of the well to be tested in order to obtain background water level information. A second staff gauge is then installed slightly downstream from the pumping well's potential cone of depression which may extend beneath the surface water body. Comparison of the two gauges during testing can then be used to determine if variations in the water levels in the surface water body could be the result of induced infiltration from the pumping well. Surface water elevations as required by Section 7 of the NYSDEC Appendix 10, Togs 3.2.1 and are critical when evaluating the potential for surface water-groundwater interactions. Analysis of surface water elevation data is part of the NYSDOH groundwater directly under the influence of surface water (GWUDI) determination.

Rainfall Monitoring

While an on-site rain gauge was maintained during testing the report indicates that for the time between tests the rainfall was reported from the Weather Channel. The location of the Weather Channel monitoring site is not given. It is not known whether the location of the Weather Channel monitoring location is within a reasonable distance to be representative of precipitation at the site. Also, the NYSDEC Appendix 10, Togs 3.2.1, Section 10 indicates that besides rainfall barometric pressure must be recorded at the same frequency as precipitation. No barometric information is given in the report.

Water Quality

Water quality samples were obtained at test well TW-3, TW-5, TW-6 and TW-8. According to the water quality chain of custody Well TW-6 was sampled on November 3, 2016 which is approximately 22 hours into the withdrawal testing of TW-6. As required by NYSDEC Appendix 10, Togs 3.2.1, Section 12 all water quality samples must be obtained from the pumping well during the last hour of pumping. The water quality sample for the TW-6 well does not meet the NYSDEC pumping test procedures.

Results of Pumping Test

First 72-Hour Pump Test – October 14, 2016

Pumping Wells

The NYSDEC Appendix 10, Togs 3.2.1 pumping test procedures for water withdrawal permitting, Section 2 describes the requirements for test pumping rates. Section 2 specifically states that a constant pumping rate must be maintained throughout the test and that during the first hour of the test failure to pump within 10 percent of the test rate for any reason will require termination of the test. The report specifically describes changes in the withdrawal rate to “achieve stabilization”. The adjustments in pumping made to the TW-8 and TW-3 test wells as shown in report Figure 26 resulted in percentage changes of 30 to 34 percent for each well within the first hour of pumping. This percentage of change in the pumping rate should have terminated the test for those two individual wells and the test restarted



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according to the Togs 3.2.1 Section 2 guidance. By not restarting the test the interpretation of the individual well test results in terms of drawdown is questionable for the TW-3 and TW-8 test wells.

The discussion for the TW-3 test well in terms of “stabilization” is somewhat confusing. The report indicates that there was a need to reduce the pumping rate from the original 26 gpm to 14 gpm to achieve “stabilization”. The report further indicates that the drawdown for the last 12 hours of pumping was 3.01 feet and for the final 6 hours of pumping was 1.72 feet. The report further indicates that during the last 6 hours of pumping the rate of drawdown was 0.29 feet per hour. The report defines the NYSDOH stabilization as 0.5 feet of drawdown per 100 feet of water in the well over the final six hours of pumping. The report indicates that the slow rate of drawdown over the last six hours demonstrates that the well has achieved stabilization. Yet the report does not present the NYSDOH calculation for stabilization. The report has not demonstrated the TW-3 well meets the NYSDOH requirement for stabilization for the final six hours of pumping. Finally the TW-3 well hydrograph shown in report Figure 3 indicates a significant water level change (approximately 44 feet) from approximately 1660 to 2250 minutes into the test. No change in pumping rate is shown on report Figure 26 to account for a corresponding change in water level. The report should include additional information concerning the cause for this change in water level and how it affects the analysis of the water level data for the TW-3 test well.

In general the comments above for the TW-3 well can be applied to the report’s analysis for the TW-5 and TW-8 test wells. Reference is made to drawdown and rates of drawdown but no calculations are presented which show that the individual wells meet the NYSDOH requirement for drawdown during the final six hours of pumping. The data presented does not support the individual well’s proposed withdrawal rates.

Observation Wells

On-Site Wells

The report indicates that the monitoring locations presented in Figures 6, 11 and 12 “demonstrated drawdown and fluctuations consistent with the pumping test”. The report needs to supply additional information and explain what is meant by this statement. Since, based on the well logs, the monitoring locations are completed in different geologic units the relevancy is that a conceptual model of groundwater flow at the site has been developed and that the water level changes observed during the testing confirms that conceptual model. No conceptual model of groundwater flow has been provided in the report therefore it is hard to accept the statement concerning “consistent fluctuations”. Also note that the water level data presented in Appendix 2 does not contain water level information for the piezometer PZ-2.

Off-site Wells

The report indicates that the water level data collected at each of the off-site monitoring locations are included in Appendix 3. No off-site water level monitoring data are presented in Appendix 3 which is labeled for Dast Parrandeh. Based on MHI’s review of the water level data the Nestler and Mackney



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wells located to the south of the project site also indicate drawdown and recovery consistent with the pumping test conducted from October 20-23, 2016.

Surface Water Monitoring

The report indicates that “none of the surface water bodies observed any effects” from Test 1. Report Figure 25 presents water level data for three staff gauges installed around the site. No information is presented concerning the method or frequency of surface water measurements. The NYSDEC Appendix 10, Togs 3.2.1, Section 11 indicates that fluctuations in surface water elevations or flows for all surface water bodies within 500 feet of the pumping well must be measured to the nearest 0.01 foot. All surface water monitoring locations should be located similar to those of any pumping or monitoring well to within 0.1 foot horizontal and reported in NAVD 1988 or NGVD 1929. Water level measurements must be recorded at least twice per log cycle after the first ten minutes of the start of the test. This data should be presented by the report in tabular form in support of report statements concerning the effects of the pumping wells on the surface water bodies monitored.

If surface water drawdown was observed in the adjacent wetlands as described for wetland piezometers P-1 and P-2 than the report needs to describe and quantify the degree and nature of the hydraulic connection with the wetland per Togs 3.2.1 Section 11.

Second 72-Hour Pump Test – November 2, 2016

Similar to the comments above for the test conducted on wells TW-3, TW-5 and TW-8, the NYSDEC pumping test procedures require that the pumping rate remain constant throughout the entire test period. The pumping rate for the TW-6 well was reduced by 50 gpm, approximately 21 percent of the final pumping rate and the TW-8 well was reduced by 10 gpm or approximately 43 percent of the final pumping rate. In order to meet the requirements of the NYSDEC Appendix 10 TOGS 3.2.1, section 2, test pumping rate, the rate changes for the TW-6 and TW-8 wells, which were reported as greater than 10 percent of the final rate within the first hour of pumping, require the test to be stopped and restarted at a later date at the appropriate target rates. The tests for the TW-6 and TW-8 wells do not meet the required NYSDEC pumping rates for water withdrawal permitting.

Again similar to the comments above for the testing of well TW-3, TW-5 and TW-8 the discussion of “water level stabilization” presented in the report does not compare the water level change over the final six hours of pumping to the NYSDOH and NYSDEC requirement of +/- 0.5 feet of water level change for each 100 feet of water in the well. Since no information is presented concerning the requirements of the NYSDOH and NYSDEC to determine water level stabilization no conclusions can be drawn concerning the adequacy of these wells in meeting the State permitting agencies criteria for meeting stabilization at the tested pumping rates.

Finally the report indicates that although the TW-8 test well did not reach stabilization the projected 180 day drawdown does meet the NYSDEC Appendix 10 TOGS 3.2.1, section 3.b, for stabilization where the water level in the well for a semi-logarithmic plot for 180 days of continuous



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pumping must maintain a water level above the pump intake plus a margin of five percent but no less than five feet of the pretest water column. Appendix 6 of the report presents the semi-logarithmic extrapolated drawdown plot for the TW-8 well for Test 2. The plot also contains a linear form equation for the extrapolated line. Solving the equation for the TW-8 test well for 180 days (259200 minutes) of pumping at the final pumping rate of 22 gpm yields an extrapolated drawdown of 674.25 feet. The total depth of the well is given as 700 feet (Table 1). Assuming the well is totally full of water yields 35 feet for five percent of the total well depth. In order to meet the Togs 3.2.1 section 3.b criteria any pump set at 700 feet could only draw the water down in well TW-8 to a depth of 665 feet. The extrapolated drawdown is approximately 675 feet which 10 feet more than the NYSDEC allows for water withdrawal permitting. Regardless of the TW-8 well pumping test not meeting the requirements for a constant pumping rate during testing it also does not meet the required stabilization criteria at the final rate tested (22 gpm).

Observation Wells

On-site Wells

Based on the information presented in report Figure 12 and except for shallow piezometer PZ-1, it appears that water level data for the remaining piezometers were not collected throughout the entire Test 2 pumping and recovery monitoring period. As will be discussed later water level information at the shallow monitoring wells is important in describing the effects of drawdown from pumping and corresponding groundwater flow across the site in both the consolidated and unconsolidated aquifers. As described previously, no water level information is presented for the P-2 piezometer location in report Appendix 2.

Off-Site Wells

Note that no Dast Parrandeh data are presented in report Appendix 3.

Surface Water Monitoring

As described earlier no surface water level measurement data in tabular form are presented in the main body of the report or the appendices. The minimum frequency for the monitoring of surface water is given in the NYSDEC Appendix 10, Togs 3.2.1, section 11. Surface runoff can significantly impact small streams during precipitation events. No information is presented that describes the effects of precipitation on the surface water bodies monitored during testing.

Rainfall Monitoring During Pump Tests

While rainfall was recorded on-site during testing all other precipitation was determined from a weather station in Binghamton, NY, approximately 95 miles northwest of the site. Precipitation data from Binghamton, NY may not be representative of conditions at the site. A comparison between total precipitation as recorded at the weather station in Binghamton, NY and the local recorded precipitation should be presented to confirm that the Binghamton reported precipitation is representative of the Gan Eden project site.



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WATER QUALITY

On-Site Pumping Wells

It should be noted that the Sullivan County Department of Health does not administer the drinking water permits for Sullivan County. All environmental permitting is performed by the New York State Department of Health which maintains an office in Sullivan County in Monticello, NY. The report should be corrected to identify the NYSDOH as the water quality permitting agency.

The report indicates that iron was found to be above the NYSDOH Part-5 Subpart 5.1 Public Water Supply maximum contaminant level in the TW-3 and TW-8 wells. The report also indicates that the turbidity was also exceeded the MCL for the TW-8 well and attributes this exceedence to high levels of iron. The report also indicates silt was in the TW-8 sample. It is more likely that the presence of silt in the sample may be the result of the turbidity exceedence. Silt may be the result of poor or nonexistent cement seal within the well casing between the overlying unconsolidated material and consolidated rock aquifer. Since NYSDEC well logs are not available for any the wells tested additional investigation of the well completions would be required to confirm that each well has been constructed according to the NYSDOH Subpart 5-1, Appendix 5-B: Standards for Water Wells, and Appendix 5-D: Special Requirements for Wells Serving Public water Supplies.

The report also fails to indicate that wells TW-3, TW-5 and TW-8 all have the presence of Escherichia Coli (e-coli) bacteria and wells TW-5 and TW-8 have the presence of coliform bacteria. The presence of both of these microbiological indicators suggests the potential for a direct connection between shallow unconsolidated groundwater and/or surface water flow system and the deeper consolidated bedrock groundwater flow system. The source of biological indicators is not presented in the report. Total coliforms can be related to improper decontamination of aquifer testing equipment prior to installation in the test well while e-coli is associated with failing septic systems and its presence in a water sample indicates that sewage material may be present and that if sewage is present, more harmful disease-causing organisms may also be present. Additional testing as to the source of the microbiological indicators found in the TW-3, TW-5 and TW-8 wells is warranted.

Hobby Well

The report should describe the results of the Hobby well water quality testing results in terms of the testing that was performed on test production well TW-8. No information is given in terms of how the well was sampled; was it a grab sample, was the Hobby well pumped for a certain time before sampling, what day and time of day was the well sampled and why were samples obtained from the different locations? It is also important to note that the iron level in the Hobby well for the November 5, 2016 sample taken during pumping of the TW-8 well is approximately 15 times the NYSDOH Part-5 Subpart 5.1 Public Water Supply maximum contaminant level.



DISCUSSION OF RESULTS

MHI disagrees with the report that wells TW-3, TW-5, TW-6 and TW-8 demonstrate that the wells “are more than capable” of meeting the water demands of the project. As was previously discussed the TW-8 well does not meet either the NYSDOH or the NYSDEC criteria for stabilization at the tested rate.

It is unclear why the TW-4 test well was not used as a monitoring location for the second test on test well TW-8. The report indicates that test well TW-3 was used instead. Well TW-4 is approximately 870 feet from the TW-8 test well while the TW-3 test well is approximately 2,560 feet from the TW-8 test well (scaled from report Figure 2). The TW-3 well does not serve as an acceptable replacement for the TW-4 well at approximately 3 times the distance.

CONCLUSIONS

1. **MHI** disagrees that the 72 hour pumping test confirms that stabilization was reached on all four wells tested and that the tested rates for each individual well can be maintained and sustained long-term. The report has not presented data or any results consistent with the NYSDEC Appendix 10, Togs 3.2.1 Pumping Test Procedures for Water Withdrawal Permitting, Section 13, Analysis of Pumping Test Data.
2. No Comment
3. **MHI** disagrees with the conclusion that with a reduced pumping rate that “off-site drawdown will be proportionally less or non-existent” and that “this also holds true for the on-site overburden and wetland wells”. Water level data obtained during the well testing has already established a hydraulic connection between the consolidated bedrock aquifer and the unconsolidated surficial material and is described in the report. The report needs to describe and quantify how the vertical migration of groundwater from the upper unconsolidated unit to the lower bedrock aquifer will be affected so that the water levels in the upper sand and gravel unconsolidated aquifer and corresponding wetland areas are not adversely affected. The report also needs to supply distance-drawdown plots for the surrounding site based on the planned permitted withdrawal rate assuming 180 day pumping period. The potential effects of the pumping under drought conditions should then be quantified on both the surrounding neighboring wells and shallow groundwater/surface water flow systems.
4. The report never demonstrated that any of the wells achieved stabilization by either the methods of the NYSDOH or the NYSDEC. Basic mathematical calculations based on drawdown for a six hour time period determined from an initial total volume of water in an individual well as required by both the NYSDOH and the NYSDEC was not determined or presented.
5. No Comment



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RECOMMENDATIONS

MHI disagrees with the recommendation that the report should be forwarded to any permitting agency for review. Our review indicates that the data collected for the report has not followed the guidelines for testing and reporting of aquifer test data in support of obtaining a water use permit from the NYSDOH or a water taking permit from the NYSDEC.

MHI SUMMARY AND RECOMMENDATIONS

At the request of the Town of Thompson Planning Board **MHI** has reviewed the report *Groundwater Supply Assessment, Proposed Gan Eden Estates, Thompson and Fallsburg, New York, February, 2017*. The purpose for the review was to develop an opinion as to the completeness of the report in describing the adequacy of the aquifer to supply a safe yield of groundwater as required by the proposed project. **MHI** reviewed each section of the report in terms of its content and ability to support the report's final conclusion and to meet the basic submission requirements of both the NYSDOH and NYSDEC.

It is the opinion of **MHI** that the report does not present information that supports the report's conclusion of adequate groundwater supply for the proposed Gan Eden Estates project. **MHI** identified several areas where the report did not follow the requirements and guidance of the NYSDOH and the NYSDEC in terms of data collection, analysis and presentation for the purposes of obtaining water use and taking permits from the appropriate State agency.

It is the opinion of **MHI** that the applicant should revise the report to comply with the appropriate guidelines and requirements for water withdrawal permitting as presented by the NYSDOH and the NYSDEC. That may include conducting additional aquifer testing, additional analysis on available data or a reduction in the planned water usage.

Finally during **MHI**'s review of the subject report it was difficult for reviewers to compare water changes at each of the water level monitoring locations based on the individual graph presentations being at different time scales. Attachment 2 Sheets 1 through 3 presents the water level data collected at each of the monitoring locations at a consistent time scale for the entire period of record with the two test pumping periods shown. Precipitation as obtained from a continuous monitoring station located in Fallsburg, NY is also included on each plot. The plotted water level information is presented in Appendix 2 of the report. The consistent time scale plots of water levels shown on Attachment 2 Sheets 1 through 3 may aid in the Boards own analysis and comprehension of water level changes on both the surrounding homeowner wells and surface water during the two testing periods.



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We thank you for the opportunity to submit this report review and hope it satisfies the needs of the Town of Thompson Planning Board. If the Board should have any questions concerning this report please do not hesitate to contact me.

Very truly yours,

Miller Hydrogeologic Incorporated

Robert T. Miller, PG
Hydrogeologist
President

Attachments
Sheets

CC: McGoey, Hauser and Edsall Consulting Engineers, LLC w/attachments, sheets

ATTACHMENT 1

Administrative Manual RULES OF PRACTICE AND PROCEDURE

**Revised to Include Amendments Through
December 14, 2016**

18 CFR 401



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**Administrative Manual
RULES OF PRACTICE AND PROCEDURE**

**Revised to Include Amendments Through
December 14, 2016**

18 CFR 401

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Administrative Manual

RULES OF PRACTICE AND PROCEDURE

18 CFR Part 401

§ 401.0 Introduction

The ***Delaware River Basin Compact*** (“*Compact*”) requires the Commission to formulate and adopt a *Comprehensive Plan* and Water Resources Program. In addition, the *Compact* provides in Section 3.8 that no project having a substantial effect on the water resources of the Basin shall be undertaken unless it shall have been first submitted to and approved by the Commission. The Commission is required to approve a project whenever it finds and determines that such project would not substantially impair or conflict with the *Comprehensive Plan*. Section 3.8 further provides that the Commission shall provide by regulation for the procedure of submission, review and consideration of projects and for its determinations pursuant to Section 3.8.

The ***Comprehensive Plan*** consists of all public and those private projects and facilities which the Commission has directed to be included therein. It also includes those documents and policies which the Commission has determined should be included within the *Comprehensive Plan* as being needed to insure optimum planning, development, conservation, use, management and control of the water resources of the Delaware Basin to meet present and future needs. The *Comprehensive Plan* is subject to periodic review and revision as provided in Sections 3.2 and 13.1 of the *Compact*.

The ***Water Resources Program*** is based upon the *Comprehensive Plan*. It is required to be updated annually and to include a systematic presentation of the quantity and quality of water resources needs of the area to be served for such reasonably foreseeable period as the Commission may determine, balanced by existing and proposed projects required to satisfy such needs. The Commission's review and modification of the *Water Resources Program* is conducted pursuant to the provisions of Articles 3.2 and 13.2 of the *Compact*.

The Commission's ***Rules of Practice and Procedure*** govern the adoption and revision of the *Comprehensive Plan*, the *Water Resources Program*, the exercise of the Commission's authority pursuant to the provisions of Article 3.8 and other actions of the Commission mandated or authorized by the *Compact*.

These *Rules of Practice and Procedure* extend to the following areas of Commission responsibility and regulation:

Subpart A	–	Comprehensive Plan
Subpart B	–	Water Resources Program
Subpart C	–	Project Review under Section 3.8 of the <i>Compact</i>
Subpart D	–	(Reserved)
Subpart E	–	Appeals or Objections to Decisions of the Executive Director in Water Quality Cases
Subpart F	–	Administrative and Other Hearings
Subpart G	–	Penalties and Settlements in Lieu of Penalties

- Subpart H – Public Access to the Commission's Records and Information
- Subpart I – General Provisions.

These rules are subject to Commission revision and modification from time to time as the Commission may determine. The Commission reserves the right to waive any Rule of Practice and Procedure it determines should not be applicable in connection with any matter requiring Commission action. All actions by the Commission, however, shall comply fully with the applicable provisions of the *Compact*.

[62 FR 64154, Dec. 4, 1997]

Subpart A

COMPREHENSIVE PLAN

SOURCE: 62 FR 64154, Dec. 4, 1997, unless otherwise noted.

§ 401.1 Scope.

This subpart shall govern the submission, consideration, and inclusion of projects into the *Comprehensive Plan*.

§ 401.2 Concept of the plan.

The *Comprehensive Plan* shall be adopted, revised and modified as provided in Sections 3.2 and 13.1 of the *Compact*. It is the Commission's responsibility to adopt the *Comprehensive Plan*, after consultation with water users and interested public bodies, for the immediate and long-range development and uses of the water resources of the Basin. The Plan shall include the public and private projects and facilities which the Commission determines are required for the optimum planning, development, conservation, utilization, management and control of the water resources of the Basin to meet present and future needs. In addition to the included projects and facilities, the *Comprehensive Plan* consists of the statements of policies, and programs that the Commission determines are necessary to govern the proper development and use of the River Basin. The documents within the *Comprehensive Plan* expressing the Commission's policies and programs for the future, including the means for carrying them out, may be set forth through narrative text, maps, charts, schedules, budgets and other appropriate means.

Specific projects and facilities and statements of policy and programs may be incorporated, deleted or modified from time to time to reflect changing conditions, research results and new technology. The degree of detail described in particular projects may vary depending upon the status of their development.

§ 401.3 Other agencies.

Projects of the federal agencies affecting the water resources of the Basin, subject to the limitations in Section 1.4 of the *Compact*, shall be governed by Section 11.1 of the *Compact*. Projects of the signatory states, their political subdivisions and public corporations affecting the water resources of the Basin, shall be governed by the provisions of Section 11.2 of the *Compact*.

§ 401.4 Project applications and proposed revisions and changes.

(a) Applications for inclusion of new public projects and the deletion or alteration of previously included public projects may be submitted by signatory parties and agencies or political subdivisions thereof. Owners or sponsors of privately owned projects may submit applications for the inclusion of new private projects and the deletion or alteration of previously included private projects in which the applicant has an interest. The Commission may also receive and consider proposals for changes and additions to the *Comprehensive Plan* which may be submitted by any agency of the signatory parties, or any interested person, organization, or group. Any application or proposal shall be submitted in such form as may be required by the Executive Director to facilitate consideration by the Commission.

(b) Applications for projects shall include at least the following information:

(1) Purpose or purposes, including quantitative measures of physical benefit anticipated from the proposal;

- (2) The location, physical features and total area required;
- (3) Forecast of the cost or effect on the utilization of water resources;
- (4) Relation to other parts of the existing *Comprehensive Plan*;
- (5) A discussion of conformance with Commission policies included in the *Comprehensive Plan*;
and
- (6) A discussion of the alternatives considered.

§ 401.5 Review of applications.

Following staff study, examination, and review of each project application, the Commission shall hold a public hearing upon notice thereon as provided in paragraph 14.4(b) of the *Compact* and may take such action on a project application as it finds to be appropriate.

§ 401.6 Proposed revisions and changes.

Proposals for changes and additions to the *Comprehensive Plan* submitted by any agency of the signatory parties or any interested person, organization or group shall identify the specific revision or change recommended. In order to permit adequate Commission consideration of any proposal, the Executive Director may require such additional information as may be needed. Review or consideration of such proposals shall be based upon the recommendation of the Executive Director and the further direction of the Commission.

§ 401.7 Further action.

The Commission will review the *Comprehensive Plan* in its entirety at least once every six years from the date of the initial adoption of the *Comprehensive Plan* (March 28, 1962). Such review may include consideration of proposals submitted by the signatory parties, agencies or political subdivision thereof or other interested parties. The amendments, additions, and deletions adopted by the Commission will be compiled and the Plan as so revised shall be made available for public inspection.

§ 401.8 Public projects under article 11 of the *Compact*.

(a) After a project of any federal, state or local agency has been included in the *Comprehensive Plan*, no further action will be required by the Commission or by the agency to satisfy the requirements of Article 11 of the *Compact*, except as the *Comprehensive Plan* may be amended or revised pursuant to the *Compact* and these regulations. Any project which is changed substantially from the project as described in the *Comprehensive Plan* will be deemed to be a new and different project for the purposes of Article 11 of the *Compact*. Whenever a change is made the sponsor shall advise the Executive Director who will determine whether the change is deemed substantial within the meaning of these regulations.

(b) Any public project not having a substantial effect on the water resources of the Basin, as defined in Subpart C of these regulations, may proceed without reference to Article 11 of the *Compact*.

§ 401.9 Custody and availability.

The *Comprehensive Plan* shall be and remain in the custody of the Executive Director. The Plan, including all maps, charts, description and supporting data shall be and remain a public record open to examination during the regular business hours of the Commission, under such safeguards as the Executive Director may determine to be necessary to preserve and protect the Plan against loss, damage or destruction.

Copies of the *Comprehensive Plan* or any part or parts thereof shall be made available by the Executive Director for public sale at a price covering the cost of production and distribution.

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Subpart B

WATER RESOURCES PROGRAM

§ 401.21 Scope.

This subpart shall govern the submission, consideration and inclusion of projects into the *Water Resources Program*.

§ 401.22 Concept of the program.

The *Water Resources Program*, as defined and described in Section 13.2 of the *Compact*, will be a reasonably detailed amplification of that part of the *Comprehensive Plan* which the Commission recommends for action within the ensuing six-year period. That part of the Program consisting of a presentation of the water resource needs of the Basin will be revised only at such intervals as may be indicated to reflect new findings and conclusions, based upon the Commission's continuing planning programs.

§ 401.23 Procedure.

Each project included in the *Water Resources Program* shall have been previously included in the *Comprehensive Plan*, except that a project may be added to both the Plan and the Program by concurrent action of the Commission. The project's sponsor shall furnish the following information prior to the inclusion of the project in the *Water Resources Program*:

- (a) The *Comprehensive Plan* data brought up-to-date for the period of the *Water Resources Program*;
 - (b) Specific location and dimension of a structural project, and specific language of a standard, policy or other non-structural proposal;
 - (c) The plan of operation of a structural project;
 - (d) The specific effects of a non-structural project;
 - (e) Sufficient data to indicate a workable financial plan under which the project will be carried out;
- and
- (f) A timetable for implementation.

§ 401.24 Preparation and adoption.

The *Water Resources Program* will be prepared and considered by the Commission for adoption annually. Projects required to satisfy the Basin needs during the period covered by the Program may be classified as follows:

- (a) **A-List:** This shall include public projects which require no further review, and inclusion in such list shall be deemed to be approved for the purposes of Section 3.8 of the *Compact*;
- (b) **B-List:** This shall include public projects not included in the A-list and privately sponsored projects which are proposed or anticipated by the Commission.

§ 401.25 Alternatives for public projects.

Any public project which has been included in the *Comprehensive Plan* but is not on the "A" list of the current *Water Resources Program*, at the option of the sponsor, may be submitted for review and approval under Section 3.8 of the *Compact* in accordance with Subpart C of these regulations.

§ 401.26 Inventory of other projects.

Each *Water Resources Program* will include, for information purposes only, an inventory of projects approved during the previous year pursuant to Section 3.8 of the *Compact* but which are not part of the *Comprehensive Plan* or *Water Resources Program*.

Subpart C

PROJECT REVIEW UNDER SECTION 3.8 OF THE *COMPACT*

SOURCE: 62 FR 64155, Dec. 4, 1997, unless otherwise noted.

§ 401.31 Scope.

This subpart shall govern the submission and review of projects under Section 3.8 of the *Delaware River Basin Compact*.

§ 401.32 Concept of 3.8.

Section 3.8 is intended to protect and preserve the integrity of the *Comprehensive Plan*. This section of the *Compact* provides:

“No project having a substantial effect on the water resources of the basin shall hereafter be undertaken by any person, corporation or governmental authority unless it shall have been first submitted to and approved by the Commission, subject to the provisions of Sections 3.3 and 3.5. The Commission shall approve a project whenever it finds and determines that such project would not substantially impair or conflict with the *Comprehensive Plan* and may modify and approve as modified, or may disapprove any such project whenever it finds and determines that the project would substantially impair or conflict with such Plan. The Commission shall provide by regulation for the procedure of submission, review and consideration of projects, and for its determinations pursuant to this section. Any determination of the Commission hereunder shall be subject to judicial review in any court of competent jurisdiction.”

§ 401.33 Administrative agreements.

The Executive Director is authorized and directed to enter into cooperative Administrative Agreements with federal and state regulatory agencies concerned with the review of projects under federal or state law as follows:

- (a) To facilitate the submission and review of applications and the determinations required under Section 3.8 of the *Compact*;
- (b) To avoid unnecessary duplication of staff functions and hearings required by law;
- (c) For such other and different purposes as he may deem feasible and advantageous for the administration of the *Compact* or any other law.

§ 401.34 Submission of project required.

Any project which may have a substantial effect on the water resources of the Basin, except as provided in paragraph (d) of this section, shall be submitted to the Commission for a determination as to whether the project impairs or conflicts with the *Comprehensive Plan*, as follows:

- (a) Where the project is subject to review by a state or federal agency which has entered into an Administrative Agreement with the Commission, such project will be referred to the Commission in accordance with the terms of the Administrative Agreement, and appropriate instructions will be prepared and issued by the Executive Director for guidance of project sponsors and applicants.
- (b) Where no other state or federal agency has jurisdiction to review and approve a project, or no Administrative Agreement is in force, the project sponsor shall apply directly to the Commission.

(c) Any project proposal, which may have a substantial effect on the water resources of the Basin, may be received and reviewed by the staff informally in conference with the project sponsor during the preliminary planning phase to assist the sponsor to develop the project in accordance with the Commission's requirements.

(d) Whenever a project sponsored by one of the signatory parties, or by any agency, political subdivision or public corporation thereof, has been included in the *Water Resources Program* in the "A List" classification, the project, to the extent of such inclusion and as described in the Program, shall be deemed approved for the purposes of Section 3.8 of the *Compact*.

(e) Whenever a project is subject to review and approval by the Commission under this section, there shall be no substantial construction activity thereon, including related preparation of land, unless and until the project has been approved by the Commission; provided, however, that this prohibition shall not apply to the drilling of wells for purposes of obtaining geohydrologic data, nor to in-plant control and pretreatment facilities for pollution abatement.

§ 401.35 Classification of projects for review under section 3.8 of the *Compact*.

(a) Except as the Executive Director may specially direct by notice to the project owner or sponsor, or as a state or federal agency may refer under paragraph (c) of this section, a project in any of the following classifications will be deemed not to have a substantial effect on the water resources of the Basin and is not required to be submitted under Section 3.8 of the *Compact*:

(1) The construction of new impoundments or the enlargement or removal of existing impoundments, for whatever purpose, when the storage capacity is less than 100 million gallons;

(2) A withdrawal from ground water for any purpose when the daily average gross withdrawal during any 30 consecutive day period does not exceed 100,000 gallons;

(3) A withdrawal from impoundments or running streams for any purpose when the daily average gross withdrawal during any 30 consecutive day period does not exceed 100,000 gallons;

(4) The construction of new domestic sewage treatment facilities or alteration or addition to existing domestic sewage treatment facilities when the design capacity of such facilities is less than a daily average rate of 10,000 gallons per day in the drainage area to Outstanding Basin Waters and Significant Resource Waters or less than 50,000 gallons per day elsewhere in the Basin; and all local sewage collector systems and improvements discharging into authorized trunk sewage systems;

(5) The construction of new facilities or alteration or addition to existing facilities for the direct discharge to surface or ground waters of industrial wastewater having design capacity of less than 10,000 gallons per day in the drainage area to Outstanding Basin Waters and Significant Resource Waters or less than 50,000 gallons per day elsewhere in the Basin; except where such wastewater contains toxic concentrations of waste materials;

(6) A change in land cover on major ground water infiltration areas when the amount of land that would be altered is less than three square miles;

(7) Deepening, widening, cleaning or dredging existing stream beds or relocating any channel, and the placement of fill or construction of dikes, on streams within the Basin except the Delaware River and tidal portions of tributaries thereto, and streams draining more than one state;

(8) Periodic maintenance dredging;

(9) Encroachments on streams within the Basin caused by:

(i) Floating docks and anchorages and buoys and navigational aids;

(ii) Temporary construction such as causeways, cofferdams and falsework required to facilitate construction on permanent structures;

(10) Bridges and highways unless they would pass in or across an existing or proposed reservoir or recreation project area as designated in the *Comprehensive Plan*;

(11) Liquid petroleum products pipelines and appurtenances designed to operate under pressures less than 150 psi; local electric distribution lines and appurtenances; local communication lines and appurtenances; local natural and manufactured gas distribution lines and appurtenances; local water distribution lines and appurtenances; and local sanitary sewer mains, unless such lines would involve significant disturbance of ground cover affecting water resources;

(12) Electric transmission or bulk power system lines and appurtenances; major trunk communication lines and appurtenances; natural and manufactured gas transmission lines and appurtenances; major water transmission lines and appurtenances; unless they would pass in, on, under or across an existing or proposed reservoir or recreation project area as designated in the *Comprehensive Plan*; unless such lines would involve significant disturbance of ground cover affecting water resources;

(13) Liquid petroleum products pipelines and appurtenances designed to operate under pressures of more than 150 psi, unless they would pass in, on, under or across an existing or proposed reservoir or recreation project area as designated in the *Comprehensive Plan*, or in, on, under or across any stream within the Basin; unless such lines would involve significant disturbance of ground cover affecting water resources;

(14) Landfill projects, unless no state-level review and permit system is in effect; broad regional consequences are anticipated; or the standards or criteria used in state level review are not adequate to protect the water of the Basin for the purposes prescribed in the *Comprehensive Plan*;

(15) Draining, filling or otherwise altering marshes or wetlands when the area affected is less than 25 acres; provided; however, that areas less than 25 acres shall be subject to Commission review and action;

(i) Where neither a state nor a federal level review and permit system is in effect, and the Executive Director determines that a project is of major regional or interstate significance requiring action by the Commission; or

(ii) When a Commissioner or the Executive Director determines that the final action of a state or federal permitting agency may not adequately reflect the Commission's policy as to wetlands of the Basin. In the case of a project affecting less than 25 acres for which there has been issued a state or federal permit, a determination to undertake review and action by the Commission shall be made no later than 30 days following notification of the Commission of such permit action. The Executive Director, with the approval of the Chairman, may at any time within the 30-day period inform any permit holder, signatory party or other interested party that the Commission will decline to undertake review and action concerning any such project;

(16) The diversion or transfer of water from the Delaware River Basin (exportation) whenever the design capacity is less than a daily average rate of 100,000 gallons;

(17) The diversion or transfer of water into the Delaware River Basin (importation) whenever the design capacity is less than a daily average rate of 100,000 gallons except when the imported water is wastewater;

(18) The diversion or transfer of wastewater into the Delaware River Basin (importation) whenever the design capacity is less than a daily average rate of 50,000 gallons; and

(19) Temporary or short term projects determined to have non-substantial impact on the water resources of the Basin by the Executive Director.

(b) All other projects which have or may have a substantial effect on the water resources of the Basin shall be submitted to the Commission in accordance with these regulations for determination as to whether the project impairs or conflicts with the *Comprehensive Plan*. Among these are projects involving the following (except as provided in paragraph (a) of this section):

- (1) Impoundment of water;
 - (2) Withdrawal of ground water;
 - (3) Withdrawal of water from impoundment or streams;
 - (4) Diversion of water into or out of the Basin;
 - (5) Deepening or widening of existing stream beds, channels, anchorages, harbors or turning basins, or the construction of new or enlarged channels, anchorages, harbors or turning basins, or the dredging of the bed of any stream or lake and disposal of the dredged spoil, when the nature or location of the project would affect the quantity or quality of ground or surface waters, or fish and wildlife habitat;
 - (6) Discharge of pollutants into surface or ground waters of the Basin;
 - (7) Facilities designed to intercept and transport sewage to a common point of discharge; and pipelines and electric power and communication lines;
 - (8) Facilities for the direct discharge to surface or ground waters of industrial wastewater;
 - (9) Projects that substantially encroach upon the stream or upon the 100-year flood plain of the Delaware River or its tributaries;
 - (10) Change in land cover on major ground water infiltration areas;
 - (11) Hydroelectric power projects, including pumped storage projects;
 - (12) Projects or facilities of federal, state and local agencies such as highways, buildings and other public works and improvements, affecting the water and related land resources of the Basin;
 - (13) Draining, filling or otherwise altering marshes or wetlands;
 - (14) Regional wastewater treatment plans developed pursuant to the Federal Water Pollution Control Act;
 - (15) Landfills and solid waste disposal facilities affecting the water resources of the Basin;
 - (16) State and local standards of flood plain regulation;
 - (17) Electric generating or cogenerating facilities designed to consumptively use in excess of 100,000 gallons per day of water during any 30-day period; and
 - (18) Any other project that the Executive Director may especially direct by notice to the project sponsor or land owner as having a potential substantial water quality impact on waters classified as Special Protection Waters.
- (c) Whenever a state or federal agency determines that a project falling within an excluded classification (as defined in paragraph (a) of this section) may have a substantial effect on the water resources of the Basin, such project may be referred by the state or federal agency to the Commission for action under these Rules.
- (d) Except as otherwise provided by § 401.39 the sponsor shall submit an application for review and approval of a project included under paragraph B. above through the appropriate agency of a signatory party. Such agency will transmit the application or a summary thereof to the Executive Director, pursuant to Administrative Agreement, together with available supporting materials filed in accordance with the practice of the agency of the signatory party.

§ 401.36 Water supply projects – conservation requirements.

Maximum feasible efficiency in the use of water is required on the part of water users throughout the Basin. Effective September 1, 1981 applications under Section 3.8 of the *Compact* for new water withdrawals subject to review by the Commission shall include and describe water-conserving practices and technology designed to minimize the use of water by municipal, industrial and agricultural users, as provided in this section.

(a) Applications for approval of new withdrawal from surface or ground water sources submitted by a municipality, public authority or private water works corporation whose total average withdrawals exceed one million gallons per day shall include or be in reference to a program prepared by the applicant consisting of the following elements:

(1) Periodic monitoring of water distribution and use, and establishment of a systematic leak detection and control program;

(2) Use of the best practicable water-conserving devices and procedures by all classes of users in new construction or installations, and provision of information to all classes of existing users concerning the availability of water-conserving devices and procedures; and

(3) A contingency plan including use priorities and emergency conservation measures to be instituted in the event of a drought or other water shortage condition. Contingency plans of public authorities or private water works corporations shall be prepared in cooperation with, and made available to, all municipalities in the area affected by the contingency plan, and shall be coordinated with any applicable statewide water shortage contingency plans.

(b) Programs prepared pursuant to paragraph (a) of this section shall be subject to any applicable limitations of public utility regulations of the signatory party in which the project is located.

(c) Applications for approval of new industrial or commercial water withdrawals from surface or ground water sources in excess of an average of one million gallons per day shall contain (1) a report of the water-conserving procedures and technology considered by the applicant, and the extent to which they will be applied in the development of the project; and (2) a contingency plan including emergency conservation measures to be instituted in the event of a drought or other water shortage. The report and contingency plan shall estimate the impact of the water conservation measures upon consumptive and non-consumptive water use by the applicant.

(d) Applications for approval of new agricultural irrigation water withdrawals from surface or ground water sources in excess of one million gallons per day shall include a statement of the operating procedure or equipment to be used by the applicant to achieve the most efficient method of application of water and to avoid waste.

(e) Reports, programs and contingency plans required under this section shall be submitted by the applicant as part of the permit application to the state agency having jurisdiction over the project, or directly to the Commission in those cases where the project is not subject to the jurisdiction of a state agency. State agencies having jurisdiction over a project that is subject to the provisions of this section shall determine the adequacy and completeness of the applicant's compliance with these requirements and shall advise the Commission of their findings and conclusions.

§ 401.37 Sequence of approval.

A project will be considered by the Commission under Section 3.8 of the *Compact* either before or after any other state or federal review, in accordance with the provisions of the Administrative Agreement applicable to such project.

§ 401.38 Form of referral by state or federal agency.

Upon approval by any state or federal agency of any project reviewable by the Commission under these regulations, if the project has not prior thereto been reviewed and approved by the Commission, such agency shall refer the project for review under Section 3.8 of the *Compact* in such form and manner as shall be provided by Administrative Agreement.

(a) The Commission will rely on the appropriate agency in each state to review and regulate the potability of all public water supplies. Applications before the Commission should address the impact of the withdrawal, use and disposal of water on the water resources of the Basin.

(b) The Commission will rely on signatory party reviews as much as possible and generally the Commission will not review the performance standards of individual components of treatment processes but will require compliance with all policies in the *Comprehensive Plan* including all applicable Water Quality Standards.

§ 401.39 Form of submission of projects not requiring prior approval by state or federal agencies.

Where a project does not require approval by any other state or federal agency, or where such approval is required but an Administrative Agreement is not in force, the project shall be submitted directly to the Commission for review and determination of compatibility with the *Comprehensive Plan*, in such form of application, with such supporting documentation, as the Executive Director may reasonably require for the administration of the provisions of the *Compact*. These shall include without limitation thereto:

(a) *Exhibits to Accompany Application.* The application shall be accompanied by the following exhibits:

- (1) Abstract of proceedings authorizing project, where applicable;
- (2) General map showing specific location and dimension of a structural project, or specific language of a standard or policy in the case of a non-structural proposal;
- (3) Section of the United States Geological Survey topographic map showing the territory and watershed affected;
- (4) Maps, drawings, specifications and profiles of any proposed structures, or a description of the specific effects of a non-structural project;
- (5) Written report of the applicant's engineer showing the proposed plan of operation of a structural project;
- (6) Map of any lands to be acquired or occupied;
- (7) Estimate of the cost of completing the proposed project, and sufficient data to indicate a workable financial plan under which the project will be carried out; and
- (8) Analyses and conclusions of regional water supply and wastewater investigations.

(b) *Letter of Transmittal.* The application shall be accompanied by a letter of transmittal in which the applicant shall include a list of all enclosures, the names and addresses to which communications may be directed to the applicant, and the names and addresses of the applicant's engineer and counsel, if any.

(c) Unless otherwise ordered by the Commission, two copies of the application and accompanying papers shall be filed. If any application is contested, the Commission may require additional copies of the application and all accompanying papers to be furnished by the applicant. In such cases, certified copies or photographic prints or reproductions may be used.

§ 401.40 Informal conferences and emergencies.

(a) Whenever the Executive Director shall deem necessary, or upon request of the applicant, an informal conference may be scheduled to explain, supplement or review an application.

(b) In the event of an emergency requiring immediate action to protect the public interest or to avoid substantial and irreparable injury to any private person or property, and the circumstances do not permit a review, hearing and determination in the regular course of these regulations, the Executive Director with the approval of the Chairman of the Commission may issue an emergency certificate authorizing an applicant to take such action as the Executive Director may deem necessary and proper in the circumstances, pending review, hearing and determination by the Commission as otherwise required in these regulations.

§ 401.41 Limitation of approval.

(a) Approval by the Commission under these regulations shall expire three years from the date of Commission action unless prior thereto the sponsor has expended substantial funds (in relation to the cost of the project) in reliance upon such approval. An approval may be extended or renewed by the Commission upon application.

(b) Any application that remains dormant (no proof of active pursuit of approvals) for a period of three years from date of receipt, shall be automatically terminated. Any renewed activity following that date will require submission of a new application.

§ 401.42 One permit program.

(a) *Purpose.* The purpose of the One Permit Program set forth in this section is to provide the opportunity for the environmental agency and/or other administrative agency of a Signatory Party (“Signatory Party Agency”) and the Commission to coordinate and collaborate in the administration of a single process for the review and adjudication of projects. The One Permit Program allows the Signatory Party Agency and Commission to incorporate requirements and determinations of both entities in a single permit or other approval instrument, pursuant to a duly adopted Administrative Agreement under paragraph 401.42 (d).

(b) *Scope.* This section applies to all projects that: (1) are reviewable under the *Compact*; (2) meet the thresholds for review set forth in § 401.35 of these Rules of Practice and Procedure; (3) are subject to review by a Signatory Party Agency under its own statutory authorities; and (4) are within regulatory programs that have been identified in a duly adopted Administrative Agreement between the Commission and a Signatory Party Agency under this § 401.42 of the Rules. For any project that requires an approval under the *Compact* that is outside the scope of the Signatory Party Agency's approval issued in accordance with an Administrative Agreement under this section, the project sponsor shall apply to the Commission in accordance with procedures established by the Commission.

(c) *Regulatory programs.* Regulatory programs eligible for administration under the One Permit Program may include but are not limited to those concerning: Basin discharges, Basin water withdrawals, and Basin flood plain requirements.

(d) *Procedure.* The categories of projects covered and the procedures for processing applications under the One Permit Program shall be set forth in one or more Administrative Agreements between the Commission and the Signatory Party Agency that have been adopted by the Commission following a duly

noticed public hearing and are in form and substance acceptable to the Commission and the Signatory Party Agency, consistent with the following:

(1) Except as provided in paragraphs 401.42 (b) and (e) of these Rules or in an Administrative Agreement that has been duly executed by the Commission and the Signatory Party Agency under this section, an application for initial approval, renewal or revision of any project subject to the One Permit Program shall be filed only with the Signatory Party Agency.

(2) To enable the Commission to compile and make available to the public a current list of pending applications for projects within the Basin subject to Commission jurisdiction, the Signatory Party Agency shall notify the Commission at least monthly of applications the Signatory Party has received during the preceding month that may be eligible for review under the One Permit Program.

(3) For those categories of projects identified in the Administrative Agreement as requiring Commission input, the Commission staff shall provide the Signatory Party Agency with such input, including where specified by the Administrative Agreement, a recommendation as to any conditions of approval that may be necessary or appropriate to include in the project review determination under § 3.8 of the *Compact* as to those regulatory programs identified in an Administrative Agreement in accordance with paragraph B above.

(4) Unless the Signatory Party Agency disapproves the project or the Administrative Agreement provides for separate Commission action under § 3.8 of the *Compact*, the Signatory Party Agency shall make the project review determination under § 3.8 of the *Compact*, as specified in the Administrative Agreement, as to the regulatory program covered by the Signatory Party Agency's approval and include the determination and any associated conditions of approval within the permit or other approval instrument that it issues to the project sponsor. If in accordance with the applicable Administrative Agreement the determination under § 3.8 of the *Compact* is made by the Commission, the Signatory Party Agency may include the determination together with any associated conditions of approval in its permit or other approval instrument covering the project.

(5) The Commission will maintain on its website a list of all projects being administered pursuant to the Program.

(e) *Comprehensive Plan projects.* Articles 11 and 13 of the *Compact* require certain projects to be included in the Comprehensive Plan. To add a project not yet included in the Comprehensive Plan, the project sponsor shall submit a separate application to the Commission. If following its review and public hearing the Commission approves the addition of the project to the Comprehensive Plan, the Commission's approval will include such project requirements as are necessary under the *Compact* and Commission regulations. All other project approvals that may be required from the Signatory Party Agency or the Commission under regulatory programs administered pursuant to this section may be issued through the One Permit Program. An application for renewal or modification of a project in the Comprehensive Plan that does not change the project so substantially as to render it a new and different project may be submitted only to the Signatory Party Agency unless otherwise specified in the Administrative Agreement.

(f) *Retention of Commission review and enforcement authorities.* Notwithstanding any other provision of this § 401.42, any Commissioner or the Executive Director may designate for Commission review any project that is reviewable under the *Compact*. Nothing in this § 401.42 shall limit the authority of the Commission to exercise its review authority under the *Compact* and applicable Commission regulations. Similarly, although Administrative Agreements executed pursuant to this section may include collaborative and cooperative compliance and enforcement procedures, nothing in this § 401.42 shall limit the authority of the Commission to exercise its enforcement authority under the *Compact* and applicable regulations.

(g) *Exhaustion of Signatory Party administrative remedies prerequisite to appeal.* Before commencing an action in a court of appropriate jurisdiction challenging any final action taken by a

Signatory Party Agency under this § 401.42, the appellant must first exhaust its administrative remedies under the law of the Signatory Party whose agency issued the decision at issue.

(h) The Commission shall establish and maintain a schedule of fees for any or all of the services it renders pursuant to this § 401.42. Unless and until a different schedule is established, the applicable fee(s) for Commission services rendered pursuant to this section shall be those set forth in DRBC Resolution No. 2009-2 for the review and renewal of project approvals. Project sponsors shall pay such fees, if any, directly to the Commission in accordance with the then-current schedule and applicable rules.

(i) *Effect of One Permit Program on Commission dockets.*

(1) Unless the Executive Director or Commission otherwise directs, if a docket holder submits, or has submitted, a timely application to a Signatory Party Agency for a project subject to review under an Administrative Agreement duly adopted under § 401.42 (d), the most recent docket for the project shall, upon expiration, be deemed administratively continued until final action is taken in accordance with paragraph I.2 below.

(2) Unless the Executive Director or Commission otherwise directs, upon a Signatory Party Agency's final action on an application for a project subject to the One Permit Program, (i) any existing or administratively continued docket for such project shall terminate as to all of its provisions and conditions that pertain to regulatory programs administered by the Signatory Party Agency under the Administrative Agreement ("the Covered Programs"); and (ii) the docket shall continue in effect as to any provisions and conditions not pertaining only to Covered Programs, including, as applicable, the incorporation of the project in the Commission's Comprehensive Plan.

(j) *Modification of Rules of Practice and Procedure to conform to this section.* Any project subject to review under an Administrative Agreement duly adopted under § 401.42 (d), shall be governed by this § 401.42 and not §§ 401.4, 401.5, 401.6, 401.8, 401.34 (a), (c) and (e), 401.37, 401.38 and Subpart F where they are inconsistent with the procedures provided in this section.

(k) *No Interference with Supreme Court decree.* In accordance with Sections 3.3(a) and 3.5 of the Compact, nothing in this § 401.42 shall grant the authority to any Signatory Party Agency to impair, diminish or otherwise adversely affect the diversions, compensating releases, rights, conditions, obligations and provisions for administration thereof provided in the United States Supreme Court decree in *New Jersey v. New York*, 347 U.S. 995 (1954) ("Decree"). Any such action shall be taken only by the Commission with the unanimous consent of the parties to the Decree or upon unanimous consent of the members of the Commission following a declaration of a state of emergency in accordance with Section 3.3(a) of the Compact.

§ 401.43 Regulatory program fees.

(a) *Purpose.* The purpose of this section is to provide an adequate, stable and reliable stream of revenue to cover the cost of the Commission's regulatory program activities, an important means by which the Commission coordinates management of the shared water resources of the Basin. Activities to be covered by the fees include the review of applications for projects that are subject to review under the Delaware River Basin Compact and implementing regulations; and ongoing activities associated with such projects, including but not limited to, effluent and ambient monitoring, data analysis, hydrodynamic and water quality modeling, and coordination with state and federal agencies.

(b) *Types of fees.* The following types of fees are established by this section:

(1) *Docket application fee.* Except as set forth in paragraph (b)(1)(iii) of this section, the docket application fee shall apply to:

(i) *Project requiring a DRBC-issued docket or permit.* Any project that, in accordance with the Delaware River Basin Compact and DRBC regulations, requires a Commission-issued docket or permit,

whether it be a new or existing project for which the Commission has not yet issued an approval or a project for which the renewal of a previous Commission approval is required.

(ii) *Project requiring inclusion in the comprehensive plan.* Any project that in accordance with section 11 or section 13.1 of the *Delaware River Basin Compact* and DRBC regulations must be added to the Comprehensive Plan (also, “Plan”). In addition to any new project required to be included in the Plan, such projects include existing projects that in accordance with section 13.1 of the *Compact* are required to be included in the Plan and which were not previously added to the Plan. Any existing project that is changed substantially from the project as described in the Plan shall be deemed to be a new and different project for purposes of this section.

(iii) *Exemptions.* The docket application fee shall not apply to:

(A) Any project for which the Signatory Party Agency serves as lead under the One Permit Program rule (§ 401.42), unless such project must be added by the Commission to the Comprehensive Plan.

(B) Any project for which an agency, authority or commission of a signatory to the Compact is the primary sponsor. Projects sponsored by political subdivisions of the signatory states shall not be included in this exemption. For purposes of this section “political subdivisions” shall include without limitation municipalities, municipal utility authorities, municipal development corporations, and all other entities not directly under the budgetary and administrative control of the Commission’s members.

(2) *Annual monitoring and coordination fee* – (i) Except as provided in paragraph (b)(2)(ii) of this section, an annual monitoring and coordination fee shall apply to each active water allocation or wastewater discharge approval issued pursuant to the *Compact* and implementing regulations, regardless of whether the approval was issued by the Commission in the form of a docket, permit or other instrument, or by a Signatory Party Agency under the One Permit Program rule (§ 401.42). The fee shall be based on the amount of a project’s approved monthly water allocation and/or approved daily discharge capacity.

(ii) For any withdrawal or diversion covered in part by a certificate of entitlement issued pursuant to §§ 420.31 and 420.32 of the water supply charges regulations (18 CFR part 420), the annual monitoring and coordination fee shall be based on the allocated amount, if any, in excess of the quantity specified in the entitlement.

(3) *Alternative review fee.* In instances where the Commission’s activities and related costs associated with the review of an existing or proposed project are expected to involve extraordinary time and expense, an alternative review fee equal to the Commission’s actual costs may be imposed. The Executive Director shall inform the project sponsor in writing when the alternative review fee is to be applied and may require advance payment in the amount of the Commission’s projected costs. Instances in which the alternative review fee may apply include, but are not limited to, matters in which:

(i) DRBC staff perform a detailed pre-application review, including but not limited to the performance or review of modeling and/or analysis to identify target limits for wastewater discharges.

(ii) DRBC staff perform or review complex modeling in connection with the design of a wastewater discharge diffuser system.

(iii) DRBC manages a public process for which the degree of public involvement results in extraordinary effort and expense, including but not limited to, costs associated with multiple stakeholder meetings, special public hearings, and/or voluminous public comment.

(iv) DRBC conducts or is required to engage third parties to conduct additional analyses or evaluations of a project in response to a court order.

(4) *Additional fees* – (i) *Emergency approval*. A request for an emergency certificate under § 401.40 to waive or amend a docket condition shall be subject to a minimum fee in accordance with paragraph (e) of this section. An alternative review fee also may be charged in accordance with paragraph (b)(3) of this section.

(ii) *Late filed renewal application*. Any renewal application submitted fewer than 120 calendar days in advance of the expiration date or after such other date specified in the docket or permit or letter of the Executive Director for filing a renewal application shall be subject to a late filed renewal application charge in excess of the otherwise applicable fee.

(iii) *Modification of a DRBC approval*. Following Commission action on a project, each project revision or modification that the Executive Director deems substantial shall require an additional docket application fee calculated in accordance with paragraph (e) of this section and subject to an alternative review fee in accordance with paragraph (b)(3) of this section.

(iv) *Name change*. Each project with a docket or permit issued by the DRBC or by a Signatory Party Agency pursuant to the One Permit Program rule (§ 401.42) will be charged an administrative fee as set forth in paragraph (e) of this section.

(v) *Change of ownership*. Each project that undergoes a “change in ownership” as that term is defined at 18 CFR 420.31(e)(2) will be charged an administrative fee as set forth in paragraph (e) of this section.

(c) *Indexed adjustment*. On July 1 of every year, beginning July 1, 2017, all fees established by this section will increase commensurate with any increase in the annual April 12-month Consumer Price Index (CPI) for Philadelphia, published by the U.S. Bureau of Labor Statistics during that year.¹ In any year in which the April 12-month CPI for Philadelphia declines or shows no change, the docket application fee and annual monitoring and coordination fee will remain unchanged. Following any indexed adjustment made under this paragraph (c), a revised fee schedule will be published in the *Federal Register* by July 1 and posted on the Commission’s website. Interested parties may also obtain the fee schedule by contacting the Commission directly during business hours.

(d) *Late payment charge*. When any fee established by this section remains unpaid 30 calendar days after the payment due date provided on the Commission’s invoice, an incremental charge equal to 2% of the amount owed shall be automatically assessed. Such charge shall be assessed every 30 days thereafter until the total amount owed, including any late payment charges has been paid in full.

(e) *Fee schedules*. The fees described in this section shall be as follows:

¹ Consumer Price Index – U / Series ID: CWURA102SA0 / Not Seasonally Adjusted / Area: Philadelphia-Wilmington-Atlantic City, PA-NJ-DE-MD / Item: All items / Base Period: 1982-84=100.

TABLE 1 TO § 401.43 – DOCKET APPLICATION FILING FEE

Project Type	Docket Application Fee	Fee Maximum
Water Allocation	\$400 per million gallons/month of allocation ¹ , not to exceed \$15,000 ¹ . Fee is doubled for any portion to be exported from the basin.	Greater of: \$15,000 ¹ or Alternative Review Fee
Wastewater Discharge	Private projects: \$1,000 ¹ Public projects: \$500 ¹	Alternative Review Fee
Other	0.4% of project cost up to \$10,000,000 plus 0.12% of project cost above \$10,000,000 (if applicable), not to exceed \$75,000 ¹	Greater of: \$75,000 ¹ or Alternative Review Fee

¹ Subject to annual adjustment in accordance with paragraph (c) of this section.

TABLE 2 TO § 401.43 – ANNUAL MONITORING AND COORDINATION FEE

Water Allocation	Annual Fee	Allocation
	\$300 ¹	< 4.99 mgm
	\$450 ¹	5.00 to 49.99 mgm
	\$650 ¹	50.00 to 499.99 mgm
	\$825 ¹	500.00 to 9,999.99 mgm
	\$1,000 ¹	> or = to 10,000 mgm
Wastewater Discharge	Annual Fee	Discharge Design Capacity
	\$300 ¹	< 0.05 mgd
	\$610 ¹	0.05 to 1 mgd
	\$820 ¹	1 to 10 mgd
	\$1,000 ¹	>10 mgd

¹ Subject to annual adjustment in accordance with paragraph (c) of this section.

TABLE 3 TO § 401.43 – ADDITIONAL FEES

Proposed Action	Fee	Fee Maximum
Emergency Approval Under 18 CFR 401.40	\$5,000	Alternative Review Fee
Late Filed Renewal Surcharge	\$2,000	--
Modification of a DRBC Approval	At Executive Director's discretion, Docket Application Fee for the appropriate project type.	Alternative Review Fee
Name change	\$1,000 ¹	--
Change of Ownership	\$1,500 ¹	--

¹ Subject to annual adjustment in accordance with paragraph (c) of this section.

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Subpart D
(Reserved)

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Subpart E

APPEALS OR OBJECTIONS TO DECISIONS OF THE EXECUTIVE DIRECTOR IN WATER QUALITY CASES

SOURCE: 62 FR 64158, Dec. 4, 1997, unless otherwise noted.

§ 401.71 Scope.

This subpart shall apply to the review, hearing and decision of objections and issues arising as a result of administrative actions and decisions taken or rendered by the Executive Director under the Basin Regulations. Any hearings shall be conducted pursuant to the provisions of Subpart F.

§ 401.72 Notice and request for hearing.

The Executive Director shall serve notice of an action or decision by him under the Basin Regulations by personal service or certified mail, return receipt requested. The affected discharger shall be entitled (and the notice of action or decision shall so state) to show cause at a Commission hearing why such action or decision should not take effect. A request for such a hearing shall be filed with the Secretary of the Commission not more than 30 days after service of the Executive Director's determination. Failure to file such a request within the time limit shall be deemed to be an acceptance of the Executive Director's determination and a waiver of any further hearing.

[62 FR 64158, Dec. 4, 1997, as amended at 63 FR 45943, Aug. 28, 1998]

§ 401.73 Form of request.

A request for a hearing may be informal but shall indicate the name of the individual and the address to which an acknowledgment may be directed. It may be stated in such detail as the objector may elect. The request shall be deemed filed only upon receipt by the Commission.

Whenever the Executive Director determines that the request for a hearing is insufficient to identify the nature and scope of the objection, or that one or more issues may be resolved, reduced or identified by such action, he may require the objector to prepare and submit to the Commission, within such reasonable time (not less than 30 days) as he may specify, a technical report of the facts relating to the objection prior to the scheduling of the hearing. The report shall be required by notice in writing served upon the objector by certified mail, return receipt requested, addressed to the person or entity filing the request for hearing at the place indicated in the request.

§ 401.74 Form and contents of report.

(a) *Generally.* A request for a report under this subpart may require such information and the answers to such questions as may be reasonably pertinent to the subject of the action or determination under consideration.

(b) *Waste Loading.* In cases involving objections to an allocation of the assimilative capacity of a stream, wasteload allocation for a point source, or load allocation for a new point source, the report shall be signed and verified by a technically qualified person having personal knowledge of the facts stated therein, and shall include such of the following items as the Executive Director may require:

(1) A specification with particularity of the ground or grounds for the objection; and failure to specify a ground for objection prior to the hearing shall foreclose the objector from thereafter asserting such a ground at the hearing;

(2) A description of industrial processing and waste treatment operational characteristics and outfall configuration in such detail as to permit an evaluation of the character, kind and quantity of the discharges, both treated and untreated, including the physical, chemical and biological properties of any liquid, gaseous, solid, radioactive, or other substance composing the discharge in whole or in part;

(3) The thermal characteristics of the discharges and the level of heat in flow;

(4) Information in sufficient detail to permit evaluation in depth of any in-plant control or recovery process for which credit is claimed;

(5) The chemical and toxicological characteristics including the processes and/or indirect discharges which may be the source of the chemicals or toxicity;

(6) An analysis of all the parameters that may have an effect on the strength of the waste or impinge upon the water quality criteria set forth in the Basin Regulations, including a determination of the rate of biochemical oxygen demand and the projection of a first-stage carbonaceous oxygen demand;

(7) Measurements of the waste as closely as possible to the processes where the wastes are produced, with the sample composited either continually or at frequent intervals (one-half hour or, where permitted by the Executive Director, one hour periods), so as to represent adequately the strength and volume of waste that is discharged; and

(8) Such other and additional specific technical data as the Executive Director may reasonably consider necessary and useful for the proper determination of a wasteload allocation.

[62 FR 46158, Dec. 4, 1997, as amended at 63 FR 45943, Aug. 28, 1998]

§ 401.75 Protection of trade secrets; confidential information.

No person shall be required in such report to divulge trade secrets or secret processes. All information disclosed to any Commissioner, agent or employee of the Commission in any report required by these Rules shall be confidential for the purposes of § 1905 of Title 18 of the United States Code which provides:

“Whoever, being an officer or employee of the United States or of any department or agency thereof, publishes, divulges, discloses, or makes known in any manner or to any extent not authorized by law any information coming to him in the course of his employment or official duties or by reason of any examination or investigation made by, or return, report or record made to or filed with, such department or agency or officer or employee thereof, which information concerns or relates to the trade secrets, processes, operations, style of work, or apparatus, or to the identity, confidential statistical data, amount or source of any income, profits, losses, or expenditures of any person, firm, partnership, corporation or association; or permits any income return or copy thereof to be seen or examined by any persons except as provided by law; shall be fined not more than \$1,000 or imprisoned not more than one year, or both; and shall be removed from office or employment. June 25, 1948, C.645, 62 Stat. 791.”

§ 401.76 Failure to furnish report.

The Executive Director may, upon five days' notice to the objector dismiss the request for a hearing as to any objector who fails to file a complete report within such time as shall be prescribed in the Director's notice.

§ 401.77 Informal conference.

Whenever the Executive Director deems it appropriate, he may cause an informal conference to be scheduled between an objector and such member of the Commission staff as he may designate. The purpose of such a conference shall be to resolve or narrow the ground or grounds of the objections.

§ 401.78 Consolidation of hearings.

Following such informal conferences as may be held, to the extent that the same or similar grounds for objections are raised by one or more objectors, the Executive Director may in his discretion and with the consent of the objectors, cause a consolidated hearing to be scheduled at which two or more objectors asserting that ground may be heard.

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Subpart F

ADMINISTRATIVE AND OTHER HEARINGS

SOURCE: 62 FR 46159, Dec. 4, 1997, unless otherwise noted.

§ 401.81 Hearings generally.

(a) *Scope of Subpart.* This subpart shall apply to contested cases required to be held under Subparts C and E of these regulations, to the conduct of other administrative hearings involving contested cases and to proceedings which Commission regulation or the Commission directs be conducted pursuant to this subpart.

(b) *Definition of Contested Case.* "Contested case" means a proceeding in which the legal rights, duties, obligations, privileges, benefits or other legal relations of specific parties are involved. Such a proceeding may involve personnel matters, project applications and docket decisions but shall not extend to the review of any proposed or adopted rule or regulation of the Commission.

(c) *Requests for Hearings.* Any person seeking a hearing to review the action or decision of the Commission or the Executive Director may request a hearing pursuant to the provisions of this subpart provided such a request is received by the Commission within thirty (30) days of the action or decision which is the subject of the requested hearing. Requests shall be submitted in writing to the Secretary of the Commission and shall identify the specific action or decision for which a hearing is requested, the date of the action or decision, the interest of the person requesting the hearing in the subject matter of the proposed hearing and a summary statement setting forth the basis for objecting to or seeking review of the action or decision. Any request filed more than thirty days after an action or decision will be deemed untimely and such request for a hearing shall be considered denied unless the Commission by unanimous vote otherwise directs. Receipt of requests for hearings, pursuant to this subpart, whether timely filed or not, shall be submitted by the Secretary to the Commissioners for their information.

(d) *Optional Joint Hearings.* Whenever designated by a department, agency or instrumentality of a signatory party, and within any limitations prescribed by the designation, a Hearing Officer designated pursuant to this subpart may also serve as a Hearing Officer, examiner or agent pursuant to such additional designation and may conduct joint hearings for the Commission and for such other department, agency or instrumentality. Pursuant to the additional designation, a Hearing Officer shall cause to be filed with the department, agency or instrumentality making the designation, a certified copy of the transcript of the evidence taken before him and, if requested, of his findings and recommendations. Neither the Hearing Officer nor the Delaware River Basin Commission shall have or exercise any power or duty as a result of such additional designation to decide the merits of any matter arising under the separate laws of a signatory party (other than the Delaware River Basin Compact).

(e) *Schedule.* The Executive Director shall cause the schedule for each hearing to be listed in advance upon a 'hearing docket' which shall be posted in public view at the office of the Commission.

(f) *Notice of Hearing.* Notice of any hearing to be conducted pursuant to this subpart shall comply with the provisions of Section 14.4(b) of the Compact relating to public notice unless otherwise directed by the Commission.

§ 401.82 Authorization to conduct hearings.

(a) *Written Requests for Hearings.* Upon receipt of a written request for a hearing pursuant to this subpart, the Executive Director shall review the record available with regard to the action or decision for which a hearing is requested. Thereafter, the Executive Director shall present the request for a hearing to the Commission for its consideration. The Commission shall grant a request for a hearing pursuant to this

subpart if it determines that an adequate record with regard to the action or decision is not available, the contested case involves a determination by the Executive Director or staff which requires further action by the Commission or that the Commission has found that an administrative hearing is necessary or desirable. If the Commission denies any request for a hearing in a contested case, the party seeking such a hearing shall be limited to such remedies as may be provided by the *Compact* or other applicable law or court rule.

(b) *Commission Directed Hearings.* This subpart shall be applicable to any proceeding which Commission regulation or the Commission directs be conducted in accordance with the provisions hereof.

§ 401.83 Hearing officer.

(a) *Generally.* Hearings shall be conducted by one or more members of the Commission, by the Executive Director, or by such other Hearing Officer as the Chairman may designate, except as provided in paragraph B. below.

(b) *Wasteload Allocation Cases.* In cases involving the allocation of the assimilative capacity of a stream:

(1) The Executive Director shall appoint a hearing board of at least two persons. One of them shall be nominated by the water pollution control agency of the state in which the discharge originates, and he shall be chairman. The board shall have and exercise the powers and duties of a Hearing Officer;

(2) A quorum of the board for purposes of the hearing shall consist of two members; and

(3) Questions of practice or procedure during the hearing shall be determined by the Chairman.

§ 401.84 Hearing procedure.

(a) *Participation in the Hearing.* In any hearing, the person requesting the hearing shall be deemed an interested party and shall be entitled to participate fully in the hearing procedure. In addition, any person whose legal rights may be affected by the decision rendered in a contested case shall be deemed an interested party. Interested parties shall have the right to be represented by counsel, to present evidence and to examine and cross-examine witnesses. In addition to interested parties, any persons having information concerning a contested case or desiring to present comments concerning the subject matter of the Hearing for inclusion in the record may submit a written statement to the Commission. Any interested party may request the right to examine or cross-examine any person who submits a written statement. In the absence of a request for examination of such person, all written statements submitted shall be included within the record and such statements may be relied upon to the extent determined by the Hearing Officer or the Commission.

(b) *Powers of the Hearing Officer.* The Hearing Officer shall:

(1) Rule upon offers of proof and the admissibility of evidence, regulate the course of the hearings, hold conferences for the settlement or simplification of procedures or issues, and shall schedule submission of documents, briefs and the time for the hearing.

(2) Cause each witness to be sworn or to make affirmation.

(3) Limit the number of times any witness may testify, limit repetitious examination or cross-examination of witnesses or the extent to which corroborative or cumulative testimony shall be accepted.

(4) Exclude irrelevant, immaterial or unduly repetitious evidence, but the interested parties shall not be bound by technical rules of evidence and all relevant evidence of reasonably probative value may be received.

(5) Require briefs and oral arguments to the extent determined necessary which shall be included as part of the record unless otherwise ordered by the Hearing Officer.

§ 401.85 Staff and other expert testimony.

(a) *Presentation on Behalf of the Commission.* The Executive Director shall arrange for the presentation of testimony by the Commission's technical staff and other experts, as he may deem necessary or desirable, to incorporate in the record or support the administrative action, determination or decision which is the subject of the hearing.

(b) *Expert Witnesses.* An interested party may submit in writing to the Hearing Officer the report and proposed testimony of an expert witness. No expert report or proposed testimony, however, shall be included in the record if the expert is not available for examination unless the report and proposed testimony shall have been provided to the Commission and all interested parties prior to the hearing and the Commission and interested parties have waived the right of cross-examination.

(c) The Executive Director may designate for inclusion in the record those records of the Commission which the Executive Director deems relevant to a decision in a contested case or to provide an understanding of applicable Commission policies, regulations or other requirements relating to the issues in the contested case. The designation of such Commission documents shall be provided to all interested parties prior to the hearing.

§ 401.86 Record of proceedings.

A record of the proceedings and evidence at each hearing shall be made by a qualified stenographer designated by the Executive Director. Where demanded by the applicant, objector, or any other person who is a party to these proceedings, or where deemed necessary by the Hearing Officer, the testimony shall be transcribed. In those instances where a transcript of proceedings is made, two copies shall be delivered to the Commission. The applicant, objector, or other persons who desire copies shall obtain them from the stenographer at such price as may be agreed upon by the stenographer and the person desiring the transcript.

§ 401.87 Assessment of costs; appeals.

(a) Whenever a hearing is conducted under this subpart, the costs thereof, as herein defined, shall be assessed by the Hearing Officer to the party requesting the hearing unless apportioned between the interested parties where cost sharing is deemed fair and equitable by the Hearing Officer. For the purposes of this section costs include all incremental costs incurred by the Commission, including, but not limited to, hearing examiner and expert consultants reasonably necessary in the matter, stenographic record, rental of a hearing room and other related expenses.

(b) Upon scheduling of a matter for hearing, the Secretary shall furnish to the applicant and/or interested parties a reasonable estimate of the costs to be incurred under this section. The applicant and/or interested parties may be required to furnish security for such costs either by cash deposit or by a surety bond of a corporate surety authorized to do business in a signatory state.

(c) An appeal of the assessment of costs may be submitted in writing to the Commission within ten (10) days of the assessment. A copy of the appeal shall be filed with the Secretary and served on all interested parties. The filing of said appeal shall not stay the Hearing.

§ 401.88 Findings, report and Commission review.

(a) The Hearing Officer shall prepare a report of his findings and recommendations. In the case of an objection to a waste load allocation, the Hearing Officer shall make specific findings of a recommended allocation which may increase, reduce or confirm the Executive Director's determination. The report shall be served by personal service or certified mail (return receipt requested) upon each party to the hearing or its counsel unless all parties have waived service of the report. The applicant and any objector may file objections to the report within 20 days after the service upon him of a copy of the report. A brief shall be

filed together with any objections. The report of the Hearing Officer together with objections and briefs shall be promptly submitted to the Commission. The Commission may require or permit oral argument upon such submission prior to its decision.

(b) The Executive Director, in addition to any submission to the Hearing Officer, may also submit to the Commission staff comments upon, or a response to, the Hearing Officer's findings and report and, where appropriate, a draft docket or other recommended Commission action. Interested parties shall be served with a copy of such submission and may have not less than ten (10) days to respond before action by the Commission.

§ 401.89 Action by the Commission.

(a) The Commission will act upon the findings and recommendations of the Hearing Officer pursuant to law.

(b) Commission Counsel shall assist the Commission with its review of the hearing record and the preparation of a Commission decision to the extent directed to do so by the Chairman.

(c) The determination of the Commission will be in writing and shall be filed together with any transcript of the hearing, report of the Hearing Officer, objections thereto, and all plans, maps, exhibits and other papers, records or documents relating to the hearing. All such records, papers and documents may be examined by any person at the office of the Commission, and shall not be removed therefrom except temporarily upon the written order of the Secretary after the filing of a receipt therefor in form prescribed by the Secretary. Copies of any such records and papers may be made in the office of the Commission by any person, subject to such reasonable safeguards for the protection of the records as the Executive Director may require.

§ 401.90 Appeals from final Commission action; time for appeals.

Any party participating in a hearing conducted pursuant to the provisions of this subpart may appeal any final Commission action. To be timely, such an appeal must be filed with an appropriate federal court, as provided in Article 15.1(p) of the Commission's *Compact*, within forty-five (45) days of final Commission action.

Subpart G

PENALTIES AND SETTLEMENTS IN LIEU OF PENALTIES

SOURCE: 52 FR 37602, Oct. 8, 1987, unless otherwise noted.

§ 401.91 Scope of subpart.

This subpart shall be applicable where the Commission shall have information indicating that a person has violated or attempted to violate any provision of the Commission's *Compact* or any of its rules, regulations or orders (hereafter referred to as possible violator). For the purposes of this subpart person shall include person, partnership, corporation, business association, governmental agency or authority.

§ 401.92 Notice to possible violators.

Upon direction of the Commission the Executive Director shall, and in all other instances, the Executive Director may require a possible violator to show cause before the Commission why a penalty should not be assessed in accordance with the provisions of these Rules and Section 14.17 of the *Compact*. The notice to the possible violator shall: (a) set forth the date on which the possible violator shall respond; and (b) set forth any information to be submitted or produced by the possible violator.

§ 401.93 The record for decision making.

(a) *Written Submission.* In addition to the information required by the Commission, any possible violator shall be entitled to submit in writing any other information that it desires to make available to the Commission before it shall act. The Executive Director may require documents to be certified or otherwise authenticated and statements to be verified. The Commission may also receive written submissions from any other persons as to whether a violation has occurred and the adverse consequences resulting from a violation of the Commission's *Compact* or its rules, regulations and orders.

(b) *Presentation to the Commission.* At the date set in the Notice, the possible violator shall have the opportunity to supplement its written presentation before the Commission by any oral statement it wishes to present and shall be prepared to respond to any questions from the Commission or its staff or to the statements submitted by persons affected by the possible violation.

§ 401.94 Adjudicatory hearings.

(a) An adjudicatory hearing, which may be in lieu of or in addition to proceedings pursuant to § 401.93, at which testimony may be presented and documents received shall not be scheduled unless: (1) the Executive Director determines that a hearing is required to have an adequate record for the Commission; or (2) the Commission directs that such a hearing be held.

(b) If an adjudicatory hearing is scheduled, the possible violator shall be given at least 14 days written notice of hearing date unless waived by consent. Notice of such a hearing may be given to the general public and the press in the manner provided in Section 14.4(b) of the *Compact* but may be waived by the Executive Director.

(c) Except to the extent inconsistent with the provisions of this subpart, adjudicatory hearings shall be conducted in accordance with the provisions of § 401.83 through § 401.87 (including § 401.85 *et seq.*).

§ 401.95 Assessment of a penalty.

The Executive Director may recommend to the Commission the amount of the penalty to be imposed. Such a recommendation shall be in writing and shall set forth the basis for the penalty amount proposed. Based upon the record submitted to the Commission, the Commission shall decide whether a violation has occurred that justifies the imposition of a penalty pursuant to Section 14.17 of the *Compact*. If it is found that such a violation has occurred, the Commission shall determine the amount of the penalty to be paid.

§ 401.96 Factors to be applied in fixing penalty amount.

(a) Consideration shall be given to the following factors in deciding the amount of any penalty or any settlement in lieu of penalty:

- (1) Previous violation, if any, of the Commission's *Compact* and regulations;
- (2) Whether the violation was unintentional or willful and deliberate;
- (3) Whether the violation caused adverse environmental consequences and the extent of any harm;
- (4) The costs incurred by the Commission or any signatory party relating to the failure to comply with the Commission's *Compact* and regulations;
- (5) The extent to which the violator has cooperated with the Commission in correcting the violation and remediating any adverse consequences or harm that resulted therefrom; and
- (6) Whether the failure to comply with the Commission's *Compact* and regulations was economically beneficial to the violator.

(b) The Commission retains the right to waive any penalty or reduce the amount of the penalty should it determine that, after consideration of the factors in sub-paragraph A. hereof, extenuating circumstances justify such action.

§ 401.97 Enforcement of penalties.

Any penalty imposed by the Commission shall be paid within 30 days or such further time period as shall be fixed by the Commission. The Executive Director and Commission counsel are authorized to take such action as may be necessary to assure enforcement of this subpart. If a proceeding before a court becomes necessary, the action of the Commission in determining a penalty amount shall constitute the penalty amount recommended by the Commission to be fixed by the court pursuant to Section 14.17 of the *Compact*.

§ 401.98 Settlement by agreement in lieu of penalty.

A possible violator may request settlement of a penalty proceeding by agreement. If the Executive Director determines that settlement by agreement in lieu of a penalty is in the best interest of the Commission, he may submit to the Commission a proposed settlement agreement in lieu of a penalty. No settlement will be considered by the Commission unless the possible violator has indicated to the Commission acceptance of the terms of the agreement and the intention to comply with all requirements of the settlement agreement including payment of any settlement amount within the time period provided.

If the Commission determines not to approve a settlement agreement, the Commission may proceed with a penalty action in accordance with this subpart.

§ 401.99 Suspension or modification of penalty.

The Commission may postpone the imposition of a penalty or provide for reconsideration of the penalty amount imposed pending correction of the condition that gave rise to the violation or pending a satisfactory resolution of any adverse consequences that resulted from the violation.

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SUBPART H

PUBLIC ACCESS TO RECORDS AND INFORMATION

AUTHORITY: 5 U.S.C. § 552, as amended by Public Law No. 104-231, 110 Stat. 3048

SOURCE: 40 FR 14056, Mar. 28, 1975; 40 FR 17987, Apr. 24, 1975, unless otherwise noted.
Redesignated at 52 FR 37602, Oct. 8, 1987.

§ 401.101 Policy on disclosure of Commission records.

The Commission will make the fullest possible disclosure of records to the public, consistent with the rights of individuals to privacy, the property rights of persons in trade secrets and confidential commercial or financial information, and the need for the Commission to promote frank internal policy deliberations and to pursue its regulatory activities without disruption.

§ 401.102 Partial disclosure of records.

If a record contains both disclosable and nondisclosable information, the nondisclosable information will be deleted and the remaining record will be disclosed unless the two are so inextricably intertwined that it is not feasible to separate them or release of the disclosable information would compromise or impinge upon the nondisclosable portion of the record.

§ 401.103 Request for existing records.

(a) Any written request to the Commission for existing records not prepared for routine distribution to the public shall be deemed to be a request for records pursuant to the Freedom of Information Act, whether or not the Freedom of Information Act is mentioned in the request, and shall be governed by the provisions of this part.

(b) Records or documents prepared by the Commission for routine public distribution, e.g., pamphlets, speeches, public information and educational materials, shall be furnished free of charge upon request as long as the supply lasts. The provisions of this part shall not be applicable to such requests.

(c) All existing Commission records are subject to routine destruction according to standard record retention schedules.

§ 401.104 Preparation of new records.

The Freedom of Information Act and the provisions of this part apply only to existing records that are reasonably described in a request filed with the Commission pursuant to the procedures herein established. The Commission shall not be required to prepare new records in order to respond to a request for information.

§ 401.105 Indexes of certain records.

(a) Indexes shall be maintained, and revised at least quarterly, for the following Commission records:

(1) Final opinions and orders made in the adjudication of cases;

(2) Statements of policy and interpretation adopted by the Commission and still in force and not published in the Federal Register or official minutes of Commission meetings; and

- (3) Administrative staff manuals and instructions to staff that affect members of the public.
- (b) A copy of each such index is available at cost of duplication from the FOIA Officer.

§ 401.106 FOIA officer.

The Executive Director shall designate a Commission employee as the FOIA Officer. The FOIA Officer shall be responsible for Commission compliance with the Freedom of Information Act and these regulations. All requests for agency records shall be sent in writing to:

FOIA Officer
Delaware River Basin Commission
P.O. Box 7360
West Trenton, New Jersey 08628-0360

§ 401.107 Permanent file of requests for Commission records.

The Commission shall maintain a permanent file of all requests for Commission records and all responses thereto, including a list of all records furnished in response to a request. This file is available for public review during working hours.

§ 401.108 Filing a request for records.

(a) All requests for Commission records shall be filed in writing delivered to the FOIA Officer, or by mailing it to the Commission. The Commission will supply forms for written requests.

(b) A request for Commission records shall reasonably describe the records being sought, in a way that they can be identified and located. A request should include all pertinent details that will help identify the records sought. A person requesting disclosure of records shall be permitted an opportunity to review them without the necessity for copying them where the records involved contain only disclosable data and information.

(1) If the description is insufficient to locate the records requested, the FOIA Officer will so notify the person making the request and indicate the additional information needed to identify the records requested.

(2) Every reasonable effort shall be made by the staff to assist in the identification and location of the records sought.

(3) In any situation in which it is determined that a request for voluminous records would unduly burden and interfere with the operations of the Commission, the person making the request will be asked to be more specific and to narrow the request, and to agree on an orderly procedure for the production of the requested records.

(c) Upon receipt of a request for records, the FOIA Officer shall enter it in a public log (which entry may consist of a copy of the request). The log shall state the date and time received, the name and address of the person making the request, the nature of the records requested, the action taken on the request, the date of the determination letter sent pursuant to § 401.109 (b), the date(s) any records are subsequently furnished, the number of staff-hours and grade levels of persons who spent time responding to the request, and the payment requested and received.

(d) A denial of a request for records, in whole or in part, shall be signed by the FOIA Officer. The name and title or position of each person who participated in the denial of a request for records shall be set forth in the letter denying the request. This requirement may be met by attaching a list of such individuals to the letter.

§ 401.109 Time limitations.

(a) All time limitations established pursuant to this section shall begin as of the time at which a request for records is logged in by the FOIA Officer pursuant to §401.108 (c). An oral request for records shall not begin any time requirement. A written request for records sent elsewhere within the Commission shall not begin any time requirement until it is redirected to the FOIA Officer and is logged in accordance with §401.108 (c). A request that is expected to involve fees in excess of \$50.00 will not be deemed received until the requester is promptly notified and agrees to bear the cost or has so indicated on his request.

(b) Within ten working days (excepting Saturdays, Sundays, and legal public holidays) after a request for records is logged by the FOIA Officer, the record shall be furnished or a letter shall be sent to the person making the request determining whether, or the extent to which, the Commission will comply with the request, and, if any records are denied, the reasons therefor.

(1) If all of the records requested have been located and a final determination has been made with respect to disclosure of all of the records requested, the letter shall so state.

(2) If all of the records have not been located or a final determination has not yet been made with respect to disclosure of all of the records requested, the letter shall state the extent to which the records involved shall be disclosed pursuant to the rules established in this part.

(3) In the following unusual circumstances, the time for sending this letter may be extended by the Executive Director for up to an additional ten working days by written notice to the person making the request setting forth the reasons for such extension and the time within which a determination is expected to be dispatched:

(i) The need to search for and collect the requested records from field facilities or other establishments that are separate from the Commission's Headquarters.

(ii) The need to search for, collect and appropriately examine a voluminous amount of separate and distinct records which are demanded in a single request.

(iii) The need for consultation, which shall be conducted with all practicable speed, with another agency having a substantial interest in the determination of the request or among two or more components of the Commission having substantial subject-matter interest therein.

(c) If any record is denied, the letter shall state the right of the person requesting such records to appeal any adverse determination to the Executive Director of the Commission. Such an appeal shall be filed within 30 days from receipt of the FOIA Officer's determination denying the requested information (where the entire request has been denied), or from the receipt of any information made available pursuant to the request (where the request has been denied in part). Within 20 working days (excepting Saturdays, Sundays, and legal public holidays) after receipt of any appeal, or any authorized extension, the Executive Director or his designee shall make a determination and notify the appellant of his determination. If the appeal is decided in favor of the appellant the requested information shall be promptly supplied as provided in this part. If on appeal the denial of the request for records is upheld in whole or in part, the appellant shall be entitled to appeal to the Commission at its regular meeting. In the event that the Commission confirms the Executive Director's denial the appellant shall be notified of the provisions for judicial review.

(d) If the request for records will result in a fee of more than \$25.00, the determination letter under § 401.109 (b) shall specify or estimate the fee involved and may require prepayment, as well as payment of any amount not yet received as a result of any previous request, before the records are made available. If the fee is less than \$25.00, prepayment shall not be required unless payment has not yet been received for records disclosed as a result of a previous request.

(e) Whenever possible, the determination letter required under § 401.109 (b) relating to a request for records that involves a fee of less than \$25.00, shall be accompanied by the requested records. Where this is not possible, the records shall be forwarded as soon as possible thereafter. For requests for records involving a fee of more than \$25.00, the records shall be forwarded as soon as possible after receipt of payment.

§ 401.110 Fees.

(a) Unless waived in accordance with the provisions of § 401.111, the following fees shall be imposed for production of any record pursuant to this part.

(1) Administrative Fees.

(i) Charges for administrative fees include staff time associated with:

- A. Processing FOIA requests;
- B. Locating and reviewing files;
- C. Monitoring file reviews;
- D. Generating computer records (electronic print-outs); and
- E. Preparing logs of records deemed non-public.

(ii) Administrative charges will be calculated as follows: Administrative charges will be billed to the requester per quarter hour following the first quarter hour. These charges will be billed at the current, hourly pay grade rate (pro-rated for quarter hour increments) of the personnel performing the service. Administrative charges will be in addition to any copying charges.

(iii) Appointment Rescheduling/Cancellation – Requesters that do not reschedule or cancel appointments to view files at least one full business day in advance of the appointment may be subject to the administrative charges incurred by the Commission in preparing the requested records. The Commission will prepare an itemized invoice of these charges and mail it to the requester for payment.

(2) Photocopying Fees. The following are charges for photocopies of public records made by Commission personnel:

(i) *Standard Size, Black & White Copies.* The charge for copying standard size, black and white public records shall be \$0.15 per printed page (i.e., single-sided copies are \$0.15 and double-sided copies are \$0.30). This charge applies to copies on the following standard paper sizes:

- A. 8.5" x 11"
- B. 8.5" x 14"
- C. 11" x 17"

(ii) *Color Copies/Printouts.* The charge for color copies or color printouts shall be as follows:

- A. 8.5" x 11" - \$1.00 per page
- B. 8.5" x 14" - \$1.50 per page
- C. 11" x 17" - \$2.00 per page

D. The charge for all color copies larger than 11" x 17" (including, but not limited to: photographic imagery, GIS print-outs, and maps) shall be calculated at the rate of \$2.50 per square foot.

(iii) *Electronically Generated Records.* Charges for copying records maintained in electronic format will be calculated by the material costs involved in generating the copies (including, but not limited to: magnetic tape, diskette, or compact disc costs) and administrative costs.

(iv) *Other Copying Fees.* The Commission, at its discretion, may arrange to have records copied by an outside contractor if the Commission does not have the resources or equipment to copy such records. In this instance, the requester will be liable for payment of these costs.

(3) *Forwarding Material to Destination.* Postage, insurance, and special fees will be charged on an actual cost basis.

(b) No charge shall be made for the time spent in resolving legal or policy issues or in examining records for the purpose of deleting nondisclosable portions thereof.

(c) Payment shall be made by check or money order payable to “Delaware River Basin Commission” and shall be sent to the FOIA Officer.

§ 401.111 Waiver of fees.

(a) No fee shall be charged for disclosure of records pursuant to this part where:

(1) The records are requested by a congressional committee or subcommittee or the General Accounting Office.

(2) The records are requested by an agency of a signatory party.

(3) The records are requested by a court of competent jurisdiction.

(4) The records are requested by a state or government having jurisdiction thereof.

(b) No fee shall be charged if a record requested is not found or for any record that is totally exempt from disclosure.

§ 401.112 Exempt information.

The following materials and information covered by this subpart shall be exempt from disclosure; that is, information that is:

(a) Related solely to the internal personnel matters of the Commission;

(b) Specifically exempted from disclosure by statute;

(c) Trade secrets and commercial or financial information obtained from a person and privileged or confidential. (For purposes of this section a trade secret may consist of any formula, pattern, device, or compilation of information which is used in one's business and which gives him an opportunity to obtain an advantage over competitors who do not know or use it. Commercial or financial information that is privileged or confidential means valuable data or information which is used in one's business and is of a type customarily held in strict confidence or regarded as privileged and not disclosed to any member of the public by the person to whom it belongs.);

(d) Inter-agency or intra-agency memorandums or letters other than purely factual compilations, which would not be available by law to a party other than an agency in litigation with the Commission;

(e) Personnel and medical files and similar files the disclosure of which would constitute a clearly unwarranted invasion of personal privacy; and

(f) Investigatory records compiled for law enforcement purposes, but only to the extent that the production of such records would (1) interfere with enforcement proceedings, (2) deprive a person of a right to a fair trial or an impartial adjudication, (3) constitute an unwarranted invasion of personal privacy,

(4) disclose the identity of a confidential source, (5) disclose investigative techniques and procedures, and (6) endanger the life or physical safety of law enforcement personnel.

§ 401.113 Segregable materials.

Any reasonably segregable portion of a record shall be provided to any person requesting such record after deletion of the portions which are exempt under this subpart, except as provided in § 401.102.

§ 401.114 Data and information previously disclosed to the public.

Any Commission record that is otherwise exempt from public disclosure pursuant to this part is available for public disclosure to the extent that it contains data or information that have previously been disclosed in a lawful manner to any member of the public, other than an employee or consultant or pursuant to other commercial arrangements with appropriate safeguards for secrecy.

§ 401.115 Discretionary disclosure by the executive director.

(a) The Executive Director may, in his discretion, disclose part or all of any Commission record that is otherwise exempt from disclosure pursuant to this part. The Executive Director shall exercise his discretion to disclose such records whenever he determines that such disclosure is in the public interest, will promote the objectives of the Commission, and is consistent with the rights of individuals to privacy, the property rights of persons in trade secrets, and the need for the Commission to promote frank internal policy deliberations and to pursue its regulatory activities without disruption.

(b) Discretionary disclosure of a record pursuant to this section shall invoke the requirement that the record shall be disclosed to any person who requests it pursuant to § 401.108, but shall not set a precedent for discretionary disclosure of any similar or related record and shall not obligate the Executive Director to exercise his discretion to disclose any other record that is exempt from disclosure.

§ 401.116 Disclosure to consultants, advisory committees, state and local government officials, and other special government employees.

Data and information otherwise exempt from public disclosure may be disclosed to Commission consultants, advisory committees, state and local government officials, and other special government employees for use only in their work in cooperation with the Commission. Such persons are thereafter subject to the same restrictions with respect to the disclosure of such data and information as any other Commission employee.

§ 401.117 Disclosure to other federal government departments and agencies.

Any Commission record otherwise exempt from public disclosure may be disclosed to other Federal government departments and agencies, except that trade secrets may be disclosed only to a department or agency that has concurrent jurisdiction over the matter and separate legal authority to obtain the specific information involved. Any disclosure under this section shall be pursuant to an agreement that the record shall not be further disclosed by the other department or agency except with the written permission of the Commission.

§ 401.118 Disclosure in administrative or court proceedings.

Data and information otherwise exempt from public disclosure may be revealed in Commission administrative or court proceedings where the data or information are relevant. The Commission will

request that the data or information be held in camera and that any other appropriate measures be taken to reduce disclosure to the minimum necessary under the circumstances.

§ 401.119 Disclosure to Congress.

All records of the Commission shall be disclosed to Congress upon an authorized request.

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Subpart I

GENERAL PROVISIONS

SOURCE: 40 FR 14059, Mar. 28, 1975; 40 FR 17987, Apr. 24, 1975, unless otherwise noted.
Redesignated at 52 FR 37602, Oct. 8, 1987

§ 401.121 Definitions.

For the purposes of these regulations, except as the context may otherwise require:

- (a) All words and phrases which are defined by Section 1.2 of the *Compact* shall have the same meaning herein.
- (b) Words and phrases which are defined by the Administrative Manual - By-laws, Management and Personnel (Section 1-3) shall have the same meaning for the purposes of these regulations.
- (c) *Application* shall mean a request for action by the Commission in any written form, including without limitation thereto, a letter, referral by any agency of a signatory party, or an official form prescribed by the Commission; provided that whenever an official form of application has been duly required, an application shall not be deemed to be pending before the Commission until such time as such form, together with the information required thereby, has been completed and filed.
- (d) *Applicant* shall mean any sponsor or other person who has submitted an application to the Commission.
- (e) *Sponsor* shall mean any person authorized to initiate, construct or administer a project.

§ 401.122 Supplementary details.

Forms, procedures and supplementary information, to effectuate these regulations, may be provided or required by the Executive Director as to any hearing, project or class of projects.

§ 401.123 Waiver of rules.

The Commission may, for good cause shown, waive rules or require additional information in any case.

§ 401.124 Construction.

These regulations are promulgated pursuant to Section 14.2 of the *Compact* and shall be construed and applied subject to all of the terms and conditions of the *Compact* and of the provisions of § 15.1 of Public Law 87-328, 75 Stat. 688.

§ 401.125 Effective date.

These regulations shall take effect **immediately** upon publication and filing pursuant to law.

Appendix 5-D: Special Requirements for Wells Serving Public Water Systems

(Statutory Authority: Public Health Law, Subdivision 206(18) and Section 225)

Sec.

- 5-D.1 Application and Definitions
- 5-D.2 Water Well Location and Protection
- 5-D.3 Water Well Construction
- 5-D.4 Well Yield and Water Flow
- 5-D.5 Well Pumps and Components
- 5-D.6 Water Well Capping and Abandonment
- 5-D.7 Separability

Table 1 Required Minimum Separation Distances to Protect Public Water Supply Wells From Contamination

Table 2 Yield Test and GWUDI Determination Requirements for Wells Serving Public Water Systems

Effective Date of November 23, 2005

Section 5-D.1 Application and Definitions.

- a.
 - 1. This Appendix applies to water wells that serve a public water system as defined in Subpart 5-1 of the State Sanitary Code. Additional requirements for these wells are contained in Appendix 5-A (*Recommended Standards for Water Works*) and Appendix 5-B (*Standards for Water Wells*) of this Part. Other state agencies, regional authorities, and local agencies with authority to regulate water wells may also have additional requirements.
 - 2. The Department or local health department may allow deviations from a standard on a case by case basis in accordance with procedures and criteria established by the Department. Such deviations may only be allowed upon approval in writing by the Department or local health department.
- b. Definitions used in Appendix 5-B shall apply within this Appendix.

Section 5-D.2 Water Well Location and Protection.

- a. Wells serving public water systems shall be located such that the owner of the water system possesses legal title to lands within 100' of the well and the owner controls by ownership, lease, easement or other legally enforceable arrangement the land use activities within 200' of the well. Hydrogeologic evaluations and source water assessments should be used to determine appropriate separation from potential contaminant sources. Where no evaluations are available, the minimum separation distances shall be those specified for public water system wells in Table 1.
- b. Where these ownership/control distances or separation distances specified in subdivision (a) of this Section cannot be achieved, including but not limited to the installation of in-kind replacement wells at existing well fields, and alternative water sources have been considered, use of such well location may be allowed by the Department or local health department having jurisdiction along with such additional measures as needed to prevent contamination of the water well and/or to otherwise provide potable water. Additional measures may include evaluation of local hydrogeology, including consideration of available water and soil quality information and historic water quality trends, and may include consideration of available source water assessments.

Section 5-D.3 Water Well Construction.

- a. A well shall be constructed to preclude and prevent entry of all known sources of contamination into the well to the extent reasonably achievable. Where the only viable source of water supply available is contaminated and alternative water sources have been considered, the local health department having jurisdiction may allow construction and use of a well in contaminated ground water with such additional measures (e.g., treatment

and monitoring) as needed to ensure provision of potable water.

- b. Well casing shall extend a minimum of 18 inches above finished grade. If a well is located in a well house, the floor of the well house shall be at least six inches above grade and the permanent casing shall extend at least twelve inches above the floor.

Section 5-D.4 Well Yield and Water Flow.

Before being put into use, new and redeveloped public water supply wells shall be tested for yield as specified in this section. Where adequate hydrogeologic information and uniform conditions exist, or when an experienced hydrogeologist or licensed professional engineer directs and certifies the test, yield testing requirements may be modified by the local health department having jurisdiction. Additional yield test requirements may need to be met for other agencies having jurisdiction.

- a. Pumping yield tests shall be done for the minimum duration of time specified in Table 2. For wells completed in unconsolidated deposits, constant flow rate testing may be used. For wells completed in rock, a minimum of six hours of stabilized drawdown should be observed either at the end of the test or as a second test except as allowed under subdivision (d) of this section or except where the Department or local health department allows constant rate testing.
- b. Where water wells use ground water sources potentially influenced by surface water as indicated in Table 2, water quality shall be tested and/or monitored during the pumping yield test in accordance with Department guidance for the determination of ground waters under the direct influence of surface water.
- c. Periodic water level observations shall be made and recorded during initial drawdown, stabilized drawdown, and recovery periods. The recorded data shall be provided in tabular form to the local agency(ies) having jurisdiction. 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. The water level at the endpoint of the stabilized drawdown period shall not be lower than the water level at the beginning point of that period. Water level measurement may be determined by steel tape, calibrated pressure gauge attached to an air line terminating at least five feet above the pump intake, electric sounder, or pressure transducer.
- d. If a stabilized pumping level is not achieved during the required test period or if the well does not recover to 90% of the initial water level within 24 hours after cessation of pumping, a thorough evaluation of the expected sustained performance of the well during seasonal or multi-year dry periods shall be prepared. This evaluation may involve additional hydrogeologic investigation. Such evaluation may be used in lieu of satisfying the objectives of subdivision (c) of this section only at the discretion of the reviewing agency(ies) having jurisdiction.
- e. The test shall be conducted at a pumping rate at least equal to the design pumping rate based on system demand.
- f. Water discharged during a yield test shall be discharged in a manner that avoids short circuiting of the pumped water back into the aquifer.
- g. For wells that have been subjected to hydrofracturing, the yield test shall not commence until redevelopment has been completed and, as a minimum, until the volume of water pumped/discharged into the aquifer has been removed from the well. After pumping, the hydrofractured well shall receive a water well yield test as outlined in this section.

Section 5-D.5 Well Pumps and Components.

- a. Well caps and seals shall be tightly secured to the well casing, watertight, vermin- proof, and provide venting as noted in this section. Split caps shall not be used. Well caps shall be lockable and secured with sturdy, weatherproof locks or otherwise secured to prevent tampering.

Section 5-D.6 Water Well Capping and Abandonment.

- a. All water well capping, abandonment and decommissioning shall be in accord with requirements in Appendix 5-A of this title.

Section 5-D.7 Separability.

If any provisions of this Appendix are held invalid, such invalidity shall not affect other provisions which can be given

effect without the invalid provisions.

Table 1
Required Minimum Separation Distances to Protect Public Water Supply Wells From Contamination

Contaminant Source	Distance (Feet)¹
Chemical storage sites not protected from the elements (e.g., salt and sand/salt storage) ²	300
Landfill waste disposal area, or hazardous or radiological waste disposal area ²	300
Land surface application or subsurface injection of effluent or digested sludge from a Municipal or public wastewater treatment facility	300
Land surface application or subsurface injection of septage waste	300
Land surface spreading or subsurface injection of liquid or solid manure	200
Storage Areas for Manure piles ³	200
Barnyard, silo, barn gutters and animal pens ³	200
Cesspools (i.e. pits with no septic tank pretreatment)	200
Wastewater treatment absorption systems located in coarse gravel or in the direct path of drainage to a well	200
Fertilizer and/or pesticide mixing and/or clean up areas	200
Seepage pit (following septic tank)	200
Underground single walled chemical or petroleum storage vessels	200
Absorption field or bed	200
Contained chemical storage sites protected from the elements (e.g., salt and sand/salt storage within covered structures) ⁴	200
Septic system components (non-watertight)	200
Intermittent sand filter without a watertight liner	200
Sanitary Privy pit	200
Surface wastewater recharge absorption system for storm water from parking lots, roadways or driveways	200
Cemeteries	200
Sanitary privy with a watertight vault	200
Septic tank, aerobic unit, watertight effluent line to distribution box	100
Sanitary sewer or combined sewer	50
Surface water recharge absorption system with no automotive-related Wastes (e.g., clear-water basin, clear-water dry well)	None ⁵
Stream, lake, watercourse, drainage ditch, or wetland	None ⁵
All known sources of contamination otherwise not shown above	200

Notes for Table 1:

1. The listed water well separation distances from contaminant sources shall be increased by 50% whenever aquifer water enters the water well at less than 50 feet below grade. If a 50% increase in separation distances can not be achieved, then the greatest possible increase in separation distance shall be provided with such additional measures as needed to prevent contamination.
2. Water wells shall not be located in a direct line of flow from these items, nor in any contaminant plume created by these items, except with such additional measures (e.g., sentinel groundwater monitoring, hydraulic containment, source water treatment) as needed to prevent contamination.
3. Water wells may be located 100 feet from temporary (30 days or less) manure piles/staging areas that are controlled to preclude contamination of surface or groundwater or 100 feet from otherwise managed manure piles that are controlled pursuant to regulation in a manner that prevents contamination of surface or groundwater. Wells serving public water systems may be located 100 feet from temporary barnyards, silos,

- barn gutters, or animal pens that are similarly controlled to prevent contamination of surface or ground water.
4. Chemical storage sites as used in this entry do not include properly maintained storage areas of chemicals used for water treatment.
 5. Wells serving public water systems may be located near water bodies or surface water recharge systems but are subject to monitoring to determine if groundwater at the point of withdrawal is directly influenced by surface water and corresponding treatment requirements. Such wells must also be protected from floodwater pursuant to subdivision 5-B.2(b) of this Part.

Table 2.**Yield Test and GWUDI¹ Determination Requirements for Wells Serving Public Water Systems**

Well Geologic Formation And Casing Depth	Type of Public Water System (see Subpart 5-1) ²			
	CWS, NTNCWS		TNCWS	
	Duration (hrs) ³	GWUDI Testing	Duration (hrs)	GWUDI Testing
For Wells Located 200 feet or less from Surface Water				
All Geology and Casing Depths	72	Yes	Per 5-B.4 if allowed by LHD ⁴	Yes
For Wells Located greater than 200 feet from Surface Water				
Sand and gravel; ≤ 50 feet casing	24	Yes	Per 5-B.4(b) if allowed by LHD ⁴	Yes
Sand and gravel; > 50 feet casing	24	No	Per 5-B.4(b) if allowed by LHD ⁴	No
Non-Carbonate Rock; ≤ 50 feet casing	72	Yes	Per 5-B.4(b) if allowed by LHD ⁴	Yes
Non-Carbonate Rock; > 50 feet casing	72	No	Per 5-B.4(b) if allowed by LHD ⁴	No
Carbonate Rock; All Casing Depths ⁵	72	Yes	Per 5-B.4(b) if allowed by LHD ⁴	Yes

1. GWUDI means ground water source directly influenced by surface water source. Where well water sources may be potentially influenced by surface water, appropriate water quality testing shall be done in accordance with Department guidance to determine if the well water source is directly influenced by surface water.
2. CWS means community water system as defined in 10 NYCRR Subpart 5-1. NTNCWS means nontransient noncommunity water system as defined in 10 NYCRR Subpart 5-1. TNCWS means a public water system that is neither a CWS nor a NTNCWS.
3. Specified duration is the minimum required pumping period and must include a minimum of six hours of stabilized drawdown at the end of the test except as allowed under subdivision 5-D.4(d) of this Appendix.
4. LHD means local health department as defined in Appendix 5-B.
5. For wells located in areas that have the potential to draw water from carbonate aquifers, the local health department may determine based upon a hydrogeologic assessment, records of well logs, and/or other local geologic data that the aquifer is unlikely to show a surface water influence associated with karst topography. Where such determination is made, GWUDI testing need not be done.

Revised: January 2006



Department of
Environmental
Conservation

Pumping Test Procedures For Water Withdrawal Permitting

Appendix 10, TOGS 3.2.1

(Water Withdrawal Supply Permit Program Application Processing)

February 2015

Department [regulations](#) (link leaves DEC website) require that pumping test results be submitted as part of any [Water Withdrawal Application](#) involving a new or additional groundwater source. This includes existing sources that have not yet been permitted. In reviewing any such application the Department must determine if the proposed well or wells will adequately meet the needs of the applicant and if others who may rely on the same aquifer will be adversely affected. The requirements that follow have been designed to produce the accurate and complete information that is vital to these determinations.

Applicants are advised to submit their pumping test plans to DEC prior to conducting a test if the proposed test procedures will deviate from these procedures in a substantive way.

For Information and Assistance

James Garry or Michael Holt (518) 402-8086 or [email the Division of Water](#)

NOTE: Before starting construction, it is advisable to submit a location map of the proposed new wells and any related construction to the Division of Environmental Permits in the appropriate DEC Regional office for a determination as to whether that construction requires any other DEC permits, such as for disturbance of protected streams, protected freshwater wetlands, or for storm water runoff from a construction site. Other factors to consider when siting a project include flood plain location, agricultural districts, conceptual wellhead protection/recharge areas, existing or potential groundwater contamination sources, and existing subsurface utility corridors whose location could provide a preferential path for groundwater flow or contamination.

1. **Time of Year** - The pumping test of unconfined sand and/or gravel aquifer wells must be conducted during a time of average or below average seasonal stream flow conditions; that is, when "normal" groundwater gradients have not been reversed or significantly altered. Typically, this eliminates the months of March, April, and May. Pumping tests for rock wells or confined sand and/or gravel wells not significantly influenced by overlying unconsolidated ground or surface water may be conducted during any month of the year. The applicant must demonstrate that the test well(s) will not be affected by spring recharge.
2. **Test Pumping Rate** - The pumping test must be performed at or above the pumping rate for which approval will be sought in the water supply application. If multiple wells are to be pumped simultaneously to achieve the necessary yield, the test must incorporate such a pumping plan. To reproduce the anticipated stress on the aquifer, the pumping test must take place when nearby wells normally in operation are active. Other pumping wells in the test area must be monitored.

A constant pumping rate must be maintained throughout the test. The pumping rate must be measured accurately and recorded frequently. A decrease in discharge from a pump will normally occur with increasing drawdown as the pump works against a greater hydraulic head and increasing friction in the system. This effect must be compensated for during the test.

During the first hour of the test, failure to pump within 10 percent of the test pumping rate for any reason will require termination of the test, recovery of water levels to static, and a restart of the test. Later pump failures must be demonstrated to have no significant effect on the data or a similar termination and restart will be necessary.

3. **Length of Test** - Regardless of the type of aquifer, pumping tests shall be conducted for a minimum of 72 hours at a constant pumping rate. The following points must be addressed.

a. A minimum of six hours of **stabilized drawdown** must be displayed at the end of the test. Stabilized drawdown is defined herein as:

- i. 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 (i.e., static water level to bottom of well) over at least a six hour period of constant pumping flow rate, **and**
- ii. plotted measurements that have not shown a trend of decreasing water level.

Note: Stabilization can often be incorrectly attributed to hydrogeologic factors such as precipitation or snowmelt recharge, a recharge boundary due to a minor surface water body (e.g., small headwater streams or ponds), or limited leakage from overlying or underlying formations. In these cases, the test must be extended as per Section 3.c, below.

b. If **stabilized drawdown is not achievable** other methods may be employed to demonstrate the ability of the aquifer to meet withdrawal demands.

- i. Continue the test period until stabilization occurs, or
- ii. Construct a semi-logarithmic plot showing a 180-day projection of the time-drawdown curve. See Section 13.b. Water level in the test well must remain above the intake plus a margin of 5% but no less than 5' of the pre-test water column, or
- iii. For other similar methods, pre-approval by the Division of Water is recommended.

c. If positive (recharge) or negative (barrier) **boundary conditions** are encountered during the test, they must have a record of at least 24 hours.

d. Excessive **rainfall** may require extension or rescheduling of the test.

e. For **multiple wells** in close proximity to each other, a rigorous 72-hour test must be performed on at least one well. After the initial test, additional tests on the other nearby wells may be **shortened to 24 hours** if all of the following conditions are met:

- i. All wells are in a relatively "homogenous" sand and gravel aquifer;

- ii. Results of the first test are unambiguous;
- iii. Well logs prove the wells are in the same formation;
- iv. The wells are of substantially identical construction (e.g., diameter, depth, and screened section);
- v. All other nearby production wells were monitored during the first test.

4. **Pre Test Conditions** - No pumping should be conducted at or near the test site for at least 24 hours prior to the test. If on-site or nearby pumping cannot be curtailed due to system supply needs or other factors, this must be noted and discussed as it relates to the test accuracy. Static water levels at the pumping well and observation wells must be measured at least daily for one week prior to the start of the test including immediately prior to the start of the test.

5. **Discharge of Water** - Water discharged during the pumping test must be conducted away from the pumping well in a down gradient direction and at sufficient distance (300 to 600 feet away) to eliminate recharge of this water to the aquifer. The discharge line and discharge point must be shown on the site plan referenced in Section 14(i). If the aquifer is confined or if it can be otherwise demonstrated that discharged water will not recharge the aquifer being tested, a more convenient method of discharge can be used (within the caveats of Section 15).

6. **Measuring Schedule** -

- a. Water levels in observation wells and at the pumping well must be measured to give at least ten observations of drawdown within each log cycle of time, beginning one minute after the start of pumping. A suggested schedule of measurements at all wells is as follows:

Pumping Test Measuring Schedule

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

- b. Test discharge pumping rate - must be measured at least once per hour.
 - c. Recovery period measurements - see Section 8.
 - d. Weather measurements - see Section 9.
 - e. Surface water measurements - see Section 10.
 - f. Water quality sampling - see Sections 11 and 12.
7. **Observation Wells** - Whenever possible, at least three observation wells should be monitored during the pumping test. The horizontal distance between each observation well and the pumping well shall be measured to the nearest 0.1 foot. The vertical elevation of a fixed reference point on each observation well and on the pumping well (e.g., "top of casing") must be established to the nearest 0.01 foot and reported in NAVD 1988 (or in NGVD of 1929 if this is

the standard at the test site). If three or more observation wells are available, one observation well must be located outside of the expected influence of the pumping well; this observation well will serve to monitor background conditions during the pumping test. The remaining observation wells must be placed so as to best define the hydrogeologic characteristics of the aquifer with respect to the pumping well. In some cases a representative sample of nearby homeowner wells must be monitored during the pumping test including nearby wells that may be outside the anticipated zone of influence.

Observation wells should be just large enough to allow accurate and rapid measurement of the water levels. **Small diameter wells are recommended** because the volume of water contained minimizes time lag in drawdown changes. Existing, larger diameter wells can be utilized if they are in good condition and were properly installed.

For **unconfined aquifers**, one well should be located approximately 30 feet from the pumping well, a second well should be no farther than 300 feet from the pumping well, and at least one additional observation well should be placed beyond the 300 foot radius. For thick confined aquifers that are considerably stratified, at least two observation wells should be placed within 700 feet of the pumping well and at least one observation well located further than 700 feet from the pumping well.

Observation wells must be screened in, or open to, the same formation as the pumping well. When appropriate, additional observation wells beyond the specified minimum number may be screened in, or open to, formations above or below the one tapped by the pumping well to determine if there is any hydraulic connection between formations. Water levels in nearby water bodies must be measured prior to and during the test. Weir flow measurements must be conducted for small streams (see Section 10).

8. **Multiple Production Wells** - For cases in which an applicant is seeking approval for multiple production wells, all such wells must be monitored during the test. In addition, the test must be conducted in a way that will obtain information pertinent to the operational needs of the wellfield. If wells may have to be operated simultaneously in order to meet demand, the test must be designed to produce data representative of these conditions.
9. **Recovery Period** - Water level measurements must be collected during the recovery period for all wells using the same procedure and time pattern followed at the beginning of the pumping test (see Section 6). Measurement must commence at least one minute prior to shutdown of the pumping well and continue for at least 12 hours or recovery to the static water level. Water level measurements should be made to the nearest 0.01 foot. To obtain accurate data during the recovery period, 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. Water level measurements must also be collected during the recovery period in all potentially effected off site monitoring wells, such as homeowner wells.
10. **Rainfall Measurement** - Rainfall must be measured to the nearest 0.01 inch and recorded daily at or near the site for one week preceding the pumping test, during the test, and during the recovery period. A log of weather conditions during this period must also be kept, including barometric pressure recorded on the same schedule as rainfall. Weather station data available from within a reasonable distance of the test site can be utilized. Current year precipitation

records must be compared to historic precipitation in order to determine if conditions at the time of the pumping test are wetter or drier than normal.

11. **Surface Water Measurements** - Fluctuations in surface water stages (or stream flow) for all surface waters within 500 feet of the pumping well should be measured to the nearest 0.01 foot. Measurements must be made using, as appropriate: weirs, staff gages (with stilling wells as necessary), nested piezometers, etc. Weir flow measurements must be conducted for small streams. The horizontal distance between each observation point and the pumping well must be measured to the nearest 0.1 foot. The vertical elevation of a fixed reference point on each observation point must be established to the nearest 0.01 foot and reported in NAVD 1988 (or in NGVD of 1929, if this is the standard at the test site). Measurements must be read and recorded at least once daily for one week prior to the start of the test and at least twice per log cycle after the first ten minutes for the duration of the test. Measurements should be made more frequently if surface water levels are changing rapidly. The degree and nature of hydraulic connection with the surface water body must be quantified.
12. **For Public Water Supplies** - For public water supplies the NYS Department of Health (NYS DOH) must be consulted on all issues related to the following:
 - a. **Water Quality Samples** - Comprehensive water samples must be obtained from the pumping well during the last hour of pumping. Samples must be analyzed to establish acceptable quality as per NYS DOH requirements.
 - b. **Wells under the Direct Influence of Surface Water** - If the pumping well is or may be hydraulically connected to a surface water body, water samples from the well must be analyzed in the field at least once every four hours for the following parameters: pH, temperature, conductivity, and hardness. Further, representative water samples from the surface water body must be measured at both the beginning and the end of the pumping test and analyzed for the same parameters. For public water supplies, the NYS DOH must be consulted on all issues related to groundwater under the influence of surface water.
 - c. The total developed groundwater source capacity, unless otherwise specified by the reviewing authority, shall equal or exceed the design maximum day demand with the largest producing well out of service.
13. **Analysis of Pumping Test Data** - In order to accurately analyze pumping test data it is necessary to use the methods and formulae appropriate for the hydrogeologic and test conditions encountered at, and specific to, the pumping test site. Knowledge of the hydrogeologic conditions of the area is necessary in order to ensure the use of appropriate techniques of analysis. Accordingly, analysis of pumping test data must be carried out by a hydrogeologist, professional engineer with hydrogeologic training, or other appropriately trained evaluator.
 - a. **Data Corrections** - Water level data, graphs, and interpretations must be corrected as appropriate or deemed significant for the effects of ambient water level trends; partially penetrating production well(s); partially penetrating observation wells; delayed yield from

unconsolidated aquifers; aquifer thickness, recharge and/or impermeable boundaries; barometric pressure changes; changes in stage in nearby surface water bodies; recharge events (rainfall, snow melt) during the week preceding the test, during the test, or during the recovery period; influence from nearby pumping wells; and any other hydrogeologic influences. All such data and calculations must be included in the test information report.

b. Theoretical **time drawdown graphs** must be prepared from the recorded drawdown by setting time equal to the length of the pumping test and groundwater withdrawal equal to the pumping test production rate. The graphs must be constructed on semi-logarithmic scale with time plotted on the log scale. Additionally, a semi-logarithmic plot showing a 180-day projection of the time-drawdown curve must be constructed on semi-logarithmic scale with time plotted on the log scale. Based on these graphs and the remaining standing water in the well at the end of the pumping test, a maximum safe pumping rate (yield) must be established for each production well or for the well field if simultaneous pumping of multiple production wells is planned (taking into account well interference). Water level in the test well must remain above the intake plus a margin of 5% but no less than 5' of the pre-test water column.

c. Theoretical **distance-drawdown graphs** must be prepared by plotting the drawdown in each observation well versus the distance of those wells from the pumping well. The graphs must be set time equal to the length of the pumping test and groundwater withdrawal equal to the pumping test production rate. The theoretical cone of depression so determined should be used to establish the area of influence of the well(s). It is highly recommended that the following **wellhead protection areas** be delineated using all available information (e.g., published hydrogeologic information, local knowledge, pumping test results, etc.) and best professional judgment: 60 day time of travel area, zone of contribution area or recharge areas (for confined or bedrock aquifers), and aquifer boundary area. Note that for bedrock wells (which do not normally hold to porous principles) the zone of contribution is often an irregular shape extending much farther in some directions than others. Thus it is difficult to delineate a zone of contribution for bedrock wells. Estimates should be made based on contributing watershed, gradient, the nature and orientation of fractures/lineaments, and best professional judgment. Some bedrock aquifers if extensively fractured can be treated or simulated as an unconsolidated aquifer.

d. Recovery data must be analyzed in a similar manner to drawdown data.

14. **Submission of Data** - Data submitted in support of a requested groundwater withdrawal must include:

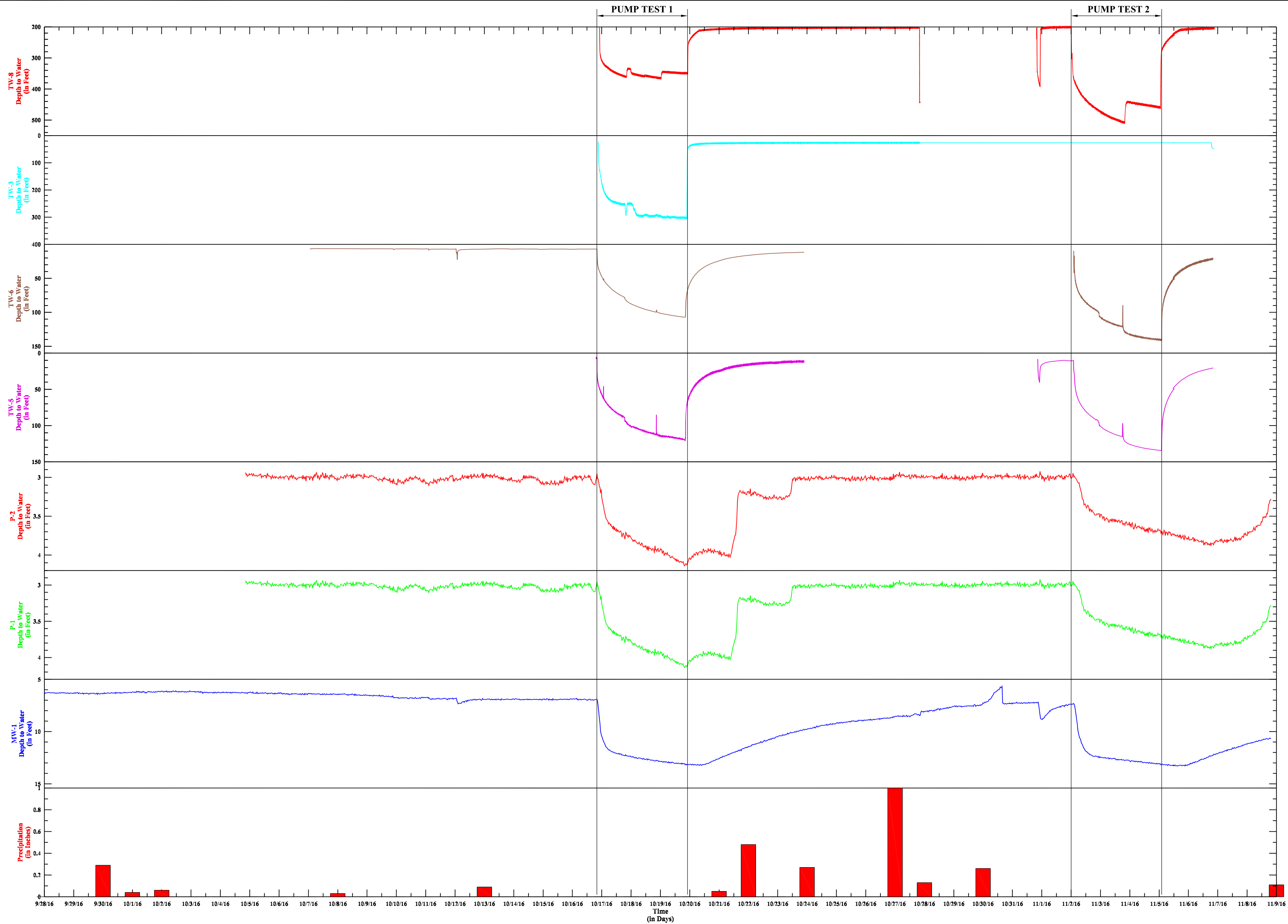
- a. **raw pumping test data** (preferably in electronic format) with the following included:
 - i. identification of tested well(s)
 - ii. identification of observation well(s)
 - iii. date, clock time, and elapsed time (minutes)
 - iv. measuring point (top of casing) elevation
 - v. water level measurements including static water level
 - vi. calculated drawdown
 - vii. depth of pump intake

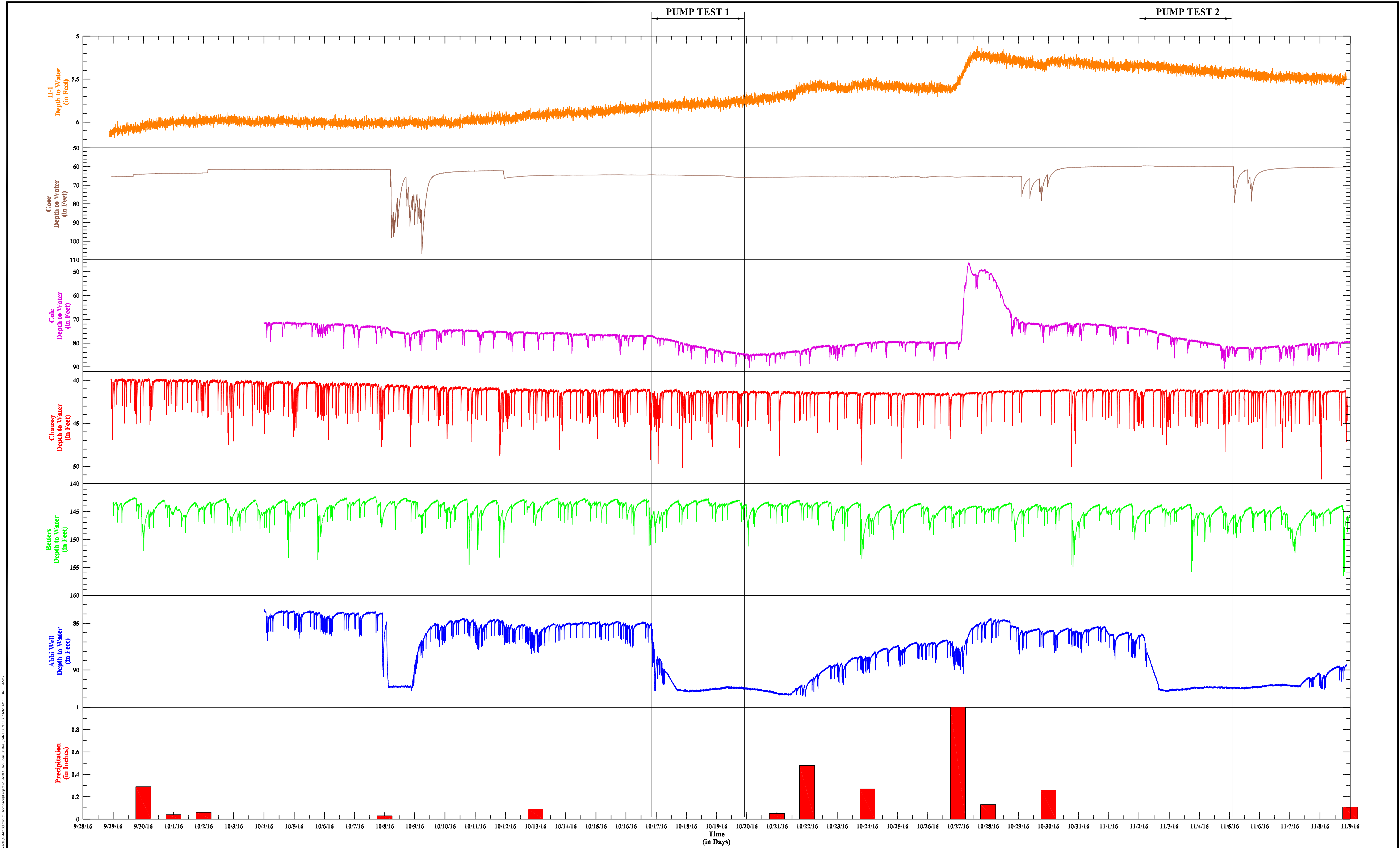
- viii. pumping rate measurements of tested well
 - b. **the time scale** of these measurements should approximate the logarithmic scale although **for later in the test the time between measurements should be increased**. It is recommended that a spreadsheet file of this raw data be submitted in place of a written record.
 - c. **pre-test water levels** of the pumping well, observation wells, surface water;
 - d. **recovery** and other post-test water level measurements;
 - e. **pumping rate(s) of nearby wells** including times on and off, surface water level and stream flow measurements, rainfall and weather information;
 - f. **engineering diagrams** showing construction details (e.g. well casing, screen setting and casing stickup, etc.) and depths of pumping wells and observation wells;
 - g. **geologic logs** must be submitted. For potable water supplies, completed NYS DEC well registration reports must also be submitted. For bedrock wells the depth of primary fractures must be noted in the log;
 - h. **graphs, formulae and calculations** used to estimate transmissivity, storage coefficient, and safe yield^[1] ;
 - i. **scaled site plan** showing:
 - i. water level elevation controls (e.g., top of casing)
 - ii. grade elevation for all wells
 - iii. staff gages and other water measuring points
 - iv. pumping test discharge piping and discharge point
 - v. the location of nearby surface water bodies
 - vi. and, if applicable, the 100 year flood plain and elevation;
 - j. **coordinates** presented in either latitude and longitude (in degrees, minutes, seconds, tenths of second) or UTM's for all production wells and any observation wells which are to remain, preferably in NAD 1983 (specify the method and datum used to locate the wells);
 - k. **a topographic map** showing the locations of existing or potential groundwater contamination threats. Delineation of a wellhead protection area is recommended; and
 - l. **interpretations** including methodology, references and rationale. All documentation submitted must be legible and professionally presented. Plans and maps should use shading, cross hatch patterns, symbology, etc., such that features are readily distinguishable and remain readable when photocopied in black and white.
15. **Control of Discharges Water** - Please note, it is not legal to discharge water into any water body or wetland if such discharge results in turbidity or erosion leading to turbidity or downstream flooding. Accordingly, 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. The discharge of water in the act of drilling and testing a well is covered under NYS DEC Regulations, Subpart 750-01: Obtaining A SPDES Permit, [§750-1.5](#) (link leaves DEC website) Exceptions: *Paragraph 11. Discharges of yield test, well test and cutting water from water well drilling operations provided such discharges are handled in accordance with best management practices and are for limited duration during well development only.*

[1] Note for bedrock investigations -- transmissivity and storage calculations in bedrock aquifers may be misleading due to failure of the media to meet the assumptions necessary for carrying out such calculations. However, it may be legitimate to treat or simulate extensively fractured bedrock as an unconsolidated aquifer. These matters should be discussed in the pumping test report. In addition, any de-watering of major fractures must be noted and the consequences discussed.


ATTACHMENT 2

©2014 Miller Hydrogeologic Inc. Project 104-16.1 (Site-Specific) Prepared for: (Client Name) Date: 4/5/17





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MILLER HYDROGEOLOGIC INCORPORATED

Project No. 104-16.1
Date: 4/5/17
SCALE: AS SHOWN
Drawn By: KAH

SHEET 2 OF 3

**RELATIVE CHANGE IN WATER LEVEL FOR
ABBI, BETTERS, CHAUSSY, COLE, GAOR, AND H-1
AND PRECIPITATION**

TOMPKINS PROJECT
ULSTER COUNTY, MONTICELLO, NEW YORK

