SECTION 3

Valuation Premises and Procedures

Description of Basic Valuation Theory and Mass Appraisal:

Basic Valuation Theory:

1) The appraiser's first task is to identify what property is being appraised. This includes not only the physical aspects of the property, but the property rights as well.

2) There are six basic property rights associated with the private ownership of property, these include: 1) the right to use, 2) the right to sell, 3) the right to lease or rent, 4) the right to enter or leave the property, 5) the right to give away, and 6) the right to refuse to do any of these. These, and other rights, are known as the full "bundle of rights", which is understood to be attached to an ownership with "fee simple" title which has been described in the preceding section.

3) The New Hampshire Supreme Court has ruled that for the purpose of property taxation, the appraised property rights are assumed to be "fee simple".[4] (NH Supreme Court, "Kennard v. Manchester, 68 N.H. 61, 36A, 553 (1894)

4) The next step is to identify the "highest and best use" of the property. Refer to the preceding discussion, as well as the discussion on highest and best use in the preceding "Assumptions and Limiting Conditions" section.

5) Once the highest and best and use has been determined, the appraiser begins the process of data collection, studies the market and accompanying economic forces (such as "supply and demand") that pertain to the highest and best use, and assembles the relevant data and statistics for incorporation into the analysis.

6) Strategies for data collection will vary with the type of data being sought, and may not be the same for every property "use". Overall, the comparative data, which may include descriptions and/or confirmations of physical attributes (such as total size, number of bedrooms, presence of a finished attic or basement, etc.) cost, income and expense, and details of sale or transfer information are collected, if applicable.

7) At this point, neighborhood boundaries can be established in order to "stratify" the properties and the property-specific factual information collected in the field, and the

statistical information pertaining to the market/economic forces that impact an area in a meaningful and cohesive way.

8) This market-derived information, such as sale information, improvement costs and depreciation is then entered into the Municipality's CAMA (Computer Assisted Mass Appraisal) system, and forms the basis for the database "tables" that enable the CAMA system to generate specific property values.

9) There are primarily three "approaches" or analytical techniques utilized to develop an opinion of value, and these techniques are incorporated into the CAMA system.

9A) The first valuation technique is referred to as the "Sales Comparison Approach", and is based on the premise that the appraiser can utilize sale prices of similar properties as evidence of value. In other words, assuming similar market conditions (supply and demand) a similar property would sell for a similar price. However, because no two properties are ever exactly alike, and market conditions can change, a systematic series of "adjustments" are made to the sale property in order to bring it into conformity with the appraised property. In the context of mass appraisal performed for assessment purposes, the "appraised" property begins with a "generic" property description that is utilized to establish a "baseline" for comparing similar properties. For instance, a "single-family residential ranch-style home, approximating 2,000 square feet, three-bedrooms, two-baths, and of average quality construction and condition." The sales are then compared and adjusted in order to isolate the various market factors and baseline parameters that are then applied to the specific properties being assessed. Overall, the Sales Comparison Approach is based upon the principle of "substitution", which assumes that when several similar properties are available the property with the lowest price will attract the greatest demand.

9B) The "Cost Approach" is based on the concept that the likely value of an existing property is the value of the underlying land plus the replacement cost of the depreciated improvements. Typically, a Cost Approach would not be utilized for an appraisal of vacant land. The replacement cost of the improvement is typically derived from published cost tables, or derived directly from localized information, and should be updated as required by market conditions. Importantly, the assessor typically evaluates the existing improvement on the basis of its "utility" and function, rather than attempting

to duplicate or exactly "reproduce" the assessed property. Similar to the Sales Comparison Approach, the Cost Approach is also based upon the principle of "substitution".

9C)   The "Income Approach" is based upon the principle of "anticipation" which recognizes that value is created by the owner's expectation of future benefits. Typically, these benefits are anticipated in the form of income, and/or in the anticipated increase in the property's value over time. This technique requires that the appraiser estimate the potential gross market income for the property at its highest and best use, subtract all appropriate expenses to derive the net operating income. The net operating income is then divided by a "capitalization" rate, or the market-derived rate investors would expect on alternative investments that share the same degree of risk as the appraised property. A simplified income approach is structured as follows:

Annual Potential Gross Income	
5 apartments @ $1,000/month =	$60,000
Annual Vacancy Rate = 5% annually =	($3,000)
Annual Effective Gross Income =	$57,000
Annual Expenses =	($23,000)
Net Operating Income =	$34,000
Capitalization Rate = 10%	

Property Value = $34,000 / 10% = $340,000

10) Completion of all three of the preceding independent approaches to value is preferable, since each independent approach provides a useful "test of reasonableness", and more such tests are preferable to fewer such tests. However, it is not always possible to complete a specific approach due to the unavailability of meaningful data. Finally, the different values reached by independent techniques are "reconciled" by evaluating both the quality of the information utilized in each approach, and a final opinion of value is selected.

Mass Appraisal:

11) Mass appraisal utilizes many of the same concepts outlined above. However, in light of the necessity to attach values to multiple properties, as opposed to a single property, mass appraisal emphasizes data management, statistical valuation models and statistical quality control. In regard to the statistical modeling required, typically the utilization of an automated valuation model (AVM), also referred to as Computer Assisted Mass Appraisal (CAMA) software is required. The CAMA or AVM is a mathematically based computer software program that produces an estimate of market value based on market analysis of location, market conditions, and real estate characteristics from information that was previously and separately collected. The distinguishing feature of CAMA or AVM software is that it is a market appraisal produced through mathematical modeling. Importantly, as in most if not all data processing systems, the credibility of the results is highly correlated with the quality of the input data utilized, and the skills of the assessor or analyst utilizing the CAMA or AVM software.

12) Therefore, a mass appraisal system generally relies upon four primary "subsystems" that include: 1) a data management system, 2) a sales analysis system, 3) a valuation system, and 4) an administration system. Each subsystem is briefly described below:

12A) The Data Management system is the core of the mass appraisal system and should be carefully designed and implemented. Fundamentally, the data management system is responsible for the data entry and subsequent editing, as well as the organization, storage and security oversight of the data. Essential to the data management system is quality control, as the reliability of the data will have a direct and profound impact on the quality of the resulting output and values.

12B) The Sales Analysis subsystem is responsible for the collection of sale data, sale screening, various statistical studies and sales reporting. The following statistical techniques are utilized to calibrate and fine-tune the data assumptions:

"**Ratio**": refers to the relationship between the appraised or assessed values and market values as determined by a review of sales. The ratio studies, which are the primary product of this function, typically provide the most meaningful measures of appraisal performance and provide the basis for establishing corrective actions (re-

appraisals), adjusting valuations to the market, and in administrative planning and scheduling. The requirement, as established by the State of New Hampshire's Assessing Standards Board, is to maintain a Median Ratio between 90% and 110% of market value (A Ratio of 100% is preferred, indicating the assessed value is identical to the market value).

"**COD**": or "Coefficient of Dispersion", is another important statistical tool utilized in mass appraisal, and refers to the average percentage deviation from the median ratio. As a measure of central tendency, the COD represents the degree to which the data being analyzed clusters around a central data point, such as the median ratio. The requirement, as established by the State of New Hampshire's Assessing Standards Board, is a COD no greater than 20% (a lower COD is preferable to a higher COD).

"**PRD**": or "Price-Related Differential", is calculated by dividing the mean by the weighted mean. A PRD greater than 1.03 indicates assessment regressivity (when high-value properties are assessed lower, or disproportionate to, than low value properties). A PRD lower than 0.98 indicates assessment progressivity (when high-value properties are assessed higher, or disproportionate to, low-value properties. The requirement, as established by the State of New Hampshire's Assessing Standards Board, is a PRD no greater than 1.03, and no lower than 0.98. Overall, a PRD equal to 1.0 is preferred.

12C)   The Valuation System generally comprises the statistical application of the three approaches to value (identified in the preceding section). For instance, utilization of the Sales Comparison Approach would include statistical techniques such as a multiple regression analysis. The Cost Approach would utilize computerized cost and depreciation tables, and reconciliation of these computerized cost-generated values with market-derived sales information. The Income Approach can utilize computer-generated income multipliers and overall capitalization rates. The Valuation System is also utilized to extract adjustments and/or factors that are utilized in the development of values.

12D)   The Administrative System includes such core (often automated) functions as development of the property record cards and assessment roll or

property tax base, the preparation of the tax notices, and retention of the appeals and other miscellaneous property files.

Period of Time Associated with Sales/Data Collection: Sale data utilized for the purpose of completing this analysis spanned a Three year period from *January 1, 2005 to September 3,, 2007* Only sales confirmed to be qualified "arms-length", or market-oriented transactions were utilized in the analysis. Sales from October 1, 2007 to June 1, 2008 were used to analyze the overall level of assessment for April 1, 2008.

Data Collection and Sales Verification Procedures: The County Registry of Deeds provides the Municipality's Assessing Department with copies of all recorded property transfers within 30 days of the date of transfer. Each individual sale was then analyzed by the Municipality's assessing staff to determine if the transfer was a "qualified" sale; i.e., arm's-length and market oriented. The qualification procedure required a direct interview with either the buyer, seller, or broker/representative familiar with the circumstances surrounding the negotiated transfer of the property. *Upon final qualification, an attempt was made to inspect the property (interior also, when applicable), and the property record cards were updated to correct any inaccuracies.*

Number of Sales Utilized in Analysis: As previously described, as of the date of this report, there are *9278* total parcels situated in the Municipality. All reasonable arms length property transfers were considered in the sales analysis

Commercial	52
Industrial	4
Residential	1942
Vacant Residential Land	25
Current Use	2
Total	2025

The breakdown of all <u>qualified</u> property transfers within the Municipality by "use type" is as follows:

Commercial	*43*
Industrial	*3*
Residential	*1068*
Vacant Residential Land	*20*
Current Use	*0*
Total	1134

Description of Data Calibration Methods: The sale data is verified for accuracy by submitting each one of these sale properties to a thorough physical (measure and list) and market analysis (by confirming a transaction was "arm's length", with no unusual circumstances that might have influenced the negotiated sale price), including interior inspection whenever possible. Once verified, and the preliminary benchmarks were established, field reviews were conducted in order to refine the base tables, and verify the alignment of properties and the tables by "use" type and location, for example. The preliminary values were further "validated" by the statistical testing of the sale data made possible by the CAMA software system. The CAMA software

groups and sorts the data by various elements of consideration such as: improvement type, age, size, and neighborhood, and various "ratios" are developed that reveal discrepancies in the underlying valuation model.

Significance of Adjustments and Factors: "Adjustments" and "factors" are mathematical changes to basic data (for example, a "base" table) to facilitate comparisons and understanding. This process assumes a "causal" relationship among the various factors for which the adjustments are made.

Examples of factors and/or adjustments can include such important elements of consideration as "view" or water frontage or water access amenities. Importantly, a "feature" can be a positive influence on property value, or a "negative" influence on property value. The specific adjustments or factors applied to properties with amenities such as these, are typically derived from a detailed sales analysis. Once the appropriate sales are identified and confirmed or "qualified", several techniques are utilized to extract, or isolate, the specific factor the appraiser is trying to identify.

One such technique is known as a "matched-pair" comparison analysis; wherein sales of properties that retain these features are compared to sales of properties that do not retain these features, and the specific "contributory" value or factor attributable to the feature is isolated. Another technique, known as "extraction", subtracts the depreciated value of the improvements from the total sale price, to arrive at the underlying value of the specific land component being analyzed.