2024 ASSESSMENT METHODOLOGY

GOLF COURSE

A summary of the methods used by the City of Edmonton in determining the value of golf course properties in Edmonton for assessment purposes.

edmonton.ca/assessment

Table of Contents

Scope

This guide explains how golf course properties are valued for assessment purposes. The guide is intended as a tool and complements the assessor's judgment in the valuation process. **Valuation Date** refers to the legislated date of July 1, 2023.

Introduction

Property assessments in the City of Edmonton are prepared in accordance with the requirements of the Municipal Government Act, R.S.A. 2000, c. M-26, (hereinafter "MGA") and the *Matters Relating to Assessment and Taxation Regulation, 2018*, Alta Reg 203/17, (hereinafter "MRAT"). The *MRAT* regulation establishes the valuation standard to be used, defines the procedures to be applied, and proposes objectives for the quality to be achieved in the preparation of assessments. The legislation requires the municipality to prepare assessments that represent market value by application of the mass appraisal process. All assessments are expected to meet quality standards prescribed by the province in the MRAT regulation.

Property assessments represent:

- an estimate of the value;
- of the fee simple estate in the property;
- as the property existed on December 31, 2023;
- reflecting typical market conditions;
- as if the property had been sold on July 1, 2023;
- on the open market;
- from a willing seller to a willing buyer.

The assessment is a prediction of the value that would result when those specific, defined conditions are met.

The legislation requires the City of Edmonton to assess the fee simple estate.

> "Fee simple interest [is] absolute ownership unencumbered by any other interest or estate… leased fee interest [is] the ownership interest held by the lessor, which includes the right to the contract rent specified in the lease plus the reversionary right when the lease expires… leasehold interest [is] the interest held by the lessee (the tenant or renter) through a lease conveying the rights of use and occupancy for a stated term under certain conditions."
>
> *Appraisal Institute of Canada,* ***The Appraisal of Real Estate Third Canadian Edition,*** *Vancouver, Canada, 2010, page 6.4*

Both *market value* and *property,* along with additional terms are defined in the *MGA* and *MRAT* :

s.284(1)(r) "**property**" means
(i) a parcel of land
(ii) an improvement, or
(iii) a parcel of land and the improvements to it

MGA *.s.284(1)(r)*

s.1(k) "**regulated property**" means
(i) land in respect of which the valuation standard is agricultural use value,
(ii) designated industrial property, or
(iii) machinery and equipment

MRAT *s.1(k)*

s.9(1) the **valuation standard** for the land and improvements is market value unless subsection (2)... applies

MRAT *s.9(1)*

s.1(1)(n) "**market value**" means the amount that a property, as defined in section 284(1)(r), might be expected to realize if it is sold on the open market by a willing seller to a willing buyer

MGA *s.1(1)(n)*

s.5 An assessment of property based on **market value**
(a) must be prepared using mass appraisal,
(b) must be an estimate of the value of the fee simple estate in the property, and
(c) must reflect typical market conditions for properties similar to that property

MRAT *s.5*

s.289(2) Each assessment must reflect
(a) the characteristics and physical condition of the property on **December 31** of the year prior to the year in which a tax is imposed

MGA *s.289(2)(a)*

s.6 Any assessment prepared in accordance with the Act must be an estimate of the value of a property on **July 1** of the assessment year

MRAT *s.6*

s.1(g) "**mass appraisal**" means the process of preparing assessments for a group of properties using standard methods and common data and allowing for statistical testing

MRAT *s.1(g)*

Mass Appraisal

Mass appraisal is the legislated methodology used by the City of Edmonton for valuing individual properties, and involves the following process:

- properties are stratified into groups of comparable property
- common property characteristics are identified for the properties in each group
- a uniform valuation model is created for each property group

> 31(c) **"valuation model"** means the representation of the relationship between property characteristics and their value in the real estate marketplace using a mass appraisal process
>
> ***MRAT*** *s.31(c)*

The following two quotations indicate how the International Association of Assessing Officers distinguishes between mass appraisal and single-property appraisal:

> "… single-property appraisal is the valuation of a particular property as of a given date: mass appraisal is the valuation of many properties as of a given date, using standard procedures and statistical testing."
>
> "Also, mass appraisal requires standardized procedures across many properties. Thus, valuation models developed for mass appraisal purposes must represent supply and demand patterns for groups of properties rather than a single property."
>
> ***Property Appraisal and Assessment Administration****, pg. 88-89*

For both mass appraisal and single-property appraisal, the process consists of the following stages:

	Mass Appraisal	Single Appraisal
Definition and Purpose	Mass appraisal is used to determine the assessment base for property taxation in accordance with legislative requirements	The client specifies the nature of the value to be estimated, including rights to be valued, effective date of valuation, and any limiting conditions
Data Collection	Mass appraisal requires a continuing program to maintain a current database of property characteristics and market information	The extent of data collection is specific to each assignment and depends on the nature of the client's requirements
Market Analysis	Mass appraisal is predicated on highest and best use	Market analysis includes the analysis of highest and best use
Valuation Model	Valuation procedures are predicated on groups of comparable properties	Subject property is the focus of the valuation. The analysis of comparable properties is generally six or less
Validation	The testing of acceptable analysis and objective criteria	The reliability of the value estimate is more subjective. Acceptability can be judged by the depth of research and analysis of comparable sales

Assessment Classification

Section 297 of the MGA requires that a property must be assigned one or more of the following assessment classes:

(a) class 1 - residential;
(b) class 2 - non-residential;
(c) class 3 - farm land;
(d) class 4 - machinery and equipment.

The different assessment classes are defined in section 297(4) of the MGA. The *City of Edmonton Charter, 2018 Regulation*, Alta Reg 39/2018 (Charter), except for the purposes of section 359 and Division 5 of Part 9 of the MGA, modifies the section 297(4) definitions for the different assessment classes.

Pursuant to section 297(2) of the MGA and Bylaw 19519, the residential class has been divided into the Mature Area Derelict Residential and Other Residential subclasses.

Assigning assessment classes requires a consideration of the class and subclass definitions and related sections in section 297 of the MGA, the Charter, Bylaw 19519, and the Edmonton Zoning Bylaw No. 12800, including Overlays.

Valuation Models

A valuation model creates an equation of variables, factors and coefficients that explains the relationship between estimated market value and property characteristics. An assessed value is then calculated by applying the appropriate valuation model to individual properties within a property type.

s31	(a) **"coefficient"** means a number that represents the quantified relationship of each variable to the assessed value of a property when derived through a mass appraisal process (b) **"factor"** means a property characteristic that contributes to a value of a property; (d) **"variable"** means a quantitative or qualitative representation of a property characteristic used in a valuation model ***MRAT**, s.31 (a), (b) and (d)*
s.33	Information prescribed… does not include coefficients ***MRAT**, s.33(3)*

Valuation Model

- variables are created from property characteristics
- analysis of how variables affect market value
- factors and coefficients are determined
- the resulting valuation models are applied to property characteristics

Approaches to Value

The approaches to determine market value are the direct comparison, income, and cost approaches.

Direct Comparison Approach	Typical market value (or some other characteristic) is determined by referencing comparable sales and other market data. It is often used when sufficient sales or market data is available. It may also be referred to as the Sales Comparison Approach.
Income Approach	This approach considers the typical actions of renters, buyers and sellers when purchasing income-producing properties. This approach estimates the typical market value of a property by determining the present value of the projected income stream. Often used to value rental or leased property.
Cost Approach	Typical market value is calculated by adding the depreciated replacement cost of the improvements to the estimated value of land. It is often used for properties under construction or when there is limited market data available.

Cost Approach

For golf course properties, the assessment is determined using the Cost approach. The cost approach produces the most accurate assessment for properties that are not actively traded in the marketplace due to their characteristics, where there is insufficient or atypical income and expense data available to effectively apply an income approach, or where the property is under construction. The cost approach rationale is that an informed purchaser will pay no more for a property than the cost of building a similar one.

The cost approach determines the replacement cost new of improvements less depreciation plus land value. The replacement cost and depreciation is determined using a cost manual. The cost manual is a guide for developing replacement cost and depreciated values for buildings and other improvements. The cost manual contains indexes for the replacement building costs and depreciation tables that are applied to the replacement cost. The City of Edmonton uses the Marshall & Swift Valuation Service (hereinafter the “M & S Manual”) which is the most comprehensive cost manual and database in the marketplace.

Typically, the land value of a property is determined using the sales comparison approach. For a more detailed explanation, refer to the 2024 Farm Land, Development, Urban Service, and Other Land Assessment Methodology and/or the 2024 Cost Approach Assessment Methodology at edmonton.ca.

> ***Replacement Cost New:*** *the cost, including material, labor, and overhead, that would be incurred in constructing an improvement having the same utility to its owner as a subject improvement, without necessarily reproducing exactly any particular characteristics*
> **Glossary for Property Appraisal and Assessment**, p.120
>
> ***Depreciation:*** *loss in value of an object, relative to its replacement cost new*
> **Glossary for Property Appraisal and Assessment**, p.41

Zoning

Zoning regulates the use and development of a property and is set by the Edmonton Zoning Bylaw No. 12800.

> s.6.123 **zone:** a specific group of listed Uses and Development Regulations which regulate the Use and Development of land within specific geographic areas of the City...
> ***Zoning Bylaw No. 12800****, 2017, s. 6.123*

For further information see City of Edmonton Zoning Bylaw, No. 12800 available at www.edmonton.ca. The actual zoning of a property may affect the property's classification; however, not all properties conform to the zoning set out in the Zoning Bylaw. In these cases, an effective zoning is applied to reflect the current use and development of the property. The effective zoning may differ from the actual zoning when the current use differs from the Zoning Bylaw (e.g., a legal nonconforming use).

> 643(1) If a development permit has been issued on or before the day on which a land use bylaw or a land use amendment bylaw comes into force in a municipality and the bylaw would make the development in respect of which the permit was issued a nonconforming use or nonconforming building, the development permit continues in effect in spite of the coming into force of the bylaw.
>
> ***MGA****, s.643(1)*

In cases where a legal non-conforming use is discontinued for six (6) or more months, any future use must conform to the Zoning Bylaw.

> 643(2) A non-conforming use of land or a building may be continued but if that use is discontinued for a period of 6 consecutive months or more, any future use of the land or building must conform with the land use bylaw then in effect.
>
> ***MGA****, s.643(2)*

The actual and effective zoning as of December 31, 2023 applies to the assessment for the 2024 tax year. The new Zoning Bylaw (Charter Bylaw 20001) and city-wide rezoning (Charter Bylaw 21001) will come into effect on January 1, 2024 and will be reflected in the assessment for the 2025 tax year.

Golf Course Valuation

The golf course assessment is comprised of the following elements: land value, servicing adjustment, building improvements value and golf course improvements value.

Land

The land for golf course properties is assessed based on its use. The golf course land is assessed as Park land. Park land refers to all or part of a property that is zoned or permitted to be used as Metropolitan Recreation Zone or Public Parks Zone as per City Zoning Bylaw 12800. Please see the 2024 Assessment Methodology Agricultural, Development and Other Land for more information.

Servicing

In order to account for servicing in valuation, an adjustment based on the cost of providing typical utility servicing to golf course properties may be applied.

There are two levels of servicing: City Standard Servicing and Rural Standard Servicing.

City Standard Servicing
The City Standard Servicing level typically includes a full range of municipal utility services that include paved roadway access, water, sanitary and storm sewer, along with electricity, natural gas, telephone, cable television and Internet.

Rural Standard Servicing
The Rural Standard Servicing level typically includes a drilled water well, which often includes a cistern(s) for water storage, and a septic field and/or pump out septic tank(s). All shallow utilities (power, natural gas & telephone) are typically provided to Rural Standard serviced parcels.

The Rural Standard Serving level typically does not include municipal water or sewer services, and road access typically comprises a gravel or cold rolled surface with drainage ditches and culverts.

Building Improvements

The City uses the M & S Manual to determine the replacement cost new less depreciation of improvements. For example, a clubhouse constructed on a golf course property is valued using the M & S Manual as per the 2024 Cost Approach Assessment Methodology.

Golf Course Improvements

Golf Course Improvements include fairways, irrigation and drainage systems, tees, greens, bunkers, bridges, cart paths, landscaping, and water features. According to the Alberta Assessors' Association best practice guide, golf course improvements add to the value of land for the purposes of a golf course:

> *Since tees, greens, fairways and obstacles such as bunkers, water hazards, landscaping, irrigation systems, slope, rough, and trees add to the value of land for the purposes of a golf course, they should be valued in addition to the raw land value. The course should be inspected and classified according to the guidelines provided in Section 5.0[1]. The Marshall & Swift Manual breaks down such costs per hole by class of course. The costs per hole represent the replacement cost of the course improvements*
>
> **Alberta Assessors' Association**, 2008, p.19

Golf course information is provided by owners during the annual Request for Information (RFI) process. Property owners are requested to provide the following via the RFI process:

- A completed Owner Contact and Certification Form
- A completed Golf Course Survey including general course information and golf course improvements/facilities details
- A completed Project Cost Breakdown including building/yard and golf course improvement projects

Golf Course Improvements value established as an economic unit

Golf courses generally cover a large footprint of land and it is common for one course to span over several tax roll accounts. The City of Edmonton recognizes that all of the underlying tax roll accounts making up a golf course are integral and required for its operation. Golf course improvement valuation is established based on the entire course, then a cost per hole value is determined and applied to the tax roll accounts within based on the number of holes that are present upon them. However, the value of a building on a golf course is attached to the specific parcel that the building is located on.

Marshall and Swift Golf Course Classes

The Marshall and Swift Manual provides a typical cost of construction range per hole for basic commercially developed courses in four quality classifications. The City of Edmonton relies upon these cost per hole ranges when establishing the value of golf course improvements.

Class 1: Minimal quality, simply developed, budget course on open natural or flat terrain, few bunkers, and small tees and greens.

Class 2: Simply designed course on relatively flat terrain, natural rough, few bunkers, small built-up tees and greens, and some small trees.

Class 3: Typical private-type club on undulating terrain, bunkers at most greens, average elevated tees and greens, some large trees moved in or clearing of some wooded areas, and a driving range.

Class 4: Better championship-type course on good undulating terrain, fairway and greens bunkered and contoured, large tees and greens, large trees transplanted, driving range, may have name architect, and standard course.

[1] *Property Assessment in Alberta Handbook, Valuation Module, Golf Courses*.

Quality Index System

A quantitative point system paired with a modified Quality Index[2] is used to categorize each golf course into one of the four Marshall and Swift Golf Course Classes.

The modified Quality Index consists of the following nine golf course improvement attributes that influence the cost of construction. Points are assigned to each attribute as shown in Figure 1.

1. **Slope Rating**: In Canada, the slope rating is established by the Royal Canadian Golf Association (RCGA)/Golf Canada, and is the measure of relative playing difficulty of a course for players who are not experienced golfers. For this attribute, the City uses **the slope rating from the most difficult "Men's" tees on the course**.
2. **Number of Bunkers**: A bunker is a golf course hazard that is a hole or depression in the ground filled in with sand or a similar material.
3. **Acres of Greens:** A green is the area of short grass surrounding a hole. Greens can vary widely in shape and size, but are most commonly oval in shape. The larger the greens, the more costly to build them.
4. **Greens Built to United States Golf Association (USGA) Specifications[3]**: Building to USGA specifications indicates a more expensive course as they are designed for maximum drainage, allowing play to resume quickly after a storm. It is a "yes/no" attribute.
5. **Number of Bridges**: A bridge is a costly construction and maintenance expense item that adds interesting features to a golf course.
6. **Number of Bulkheaded Tees and Greens**: Bulkheads are retaining walls built around tees and greens that are typically used to separate hazards and/or for aesthetic purposes. This feature typically indicates a more prestigious course.
7. **Double Row Irrigation Systems**: These systems are advanced irrigation control systems with sprinkler heads that offer an improved efficiency over single-row coverage. Typically, they exist in areas where annual rainfall is minimal. It is a "yes/no" attribute.
8. **Berms and Undulations**: Berms are man-made hills that typically separate fairways between golf holes. This feature can be categorized as above average, average, or below average based on size and placement.
9. **Elevated Tees and Greens:** A tee is a cleared space on a golf course from which the ball is struck at the beginning of play for each hole. A green is the culmination of a golf hole, and where the flagstick and hole are located. Oftentimes these features are elevated as an added design feature. These features can be categorized as above average, average, or below average based on design and placement.

[2] The Quality Index System is based upon an article by J. George Moore titled *Mass Appraisal of Golf Courses*. Refer to the International Association of Assessing Officers, July/August 1999, Volume 6 – Number 4 Assessment Journal. Although the article has a U.S. context, it can also be applied to Canadian golf courses.

[3] United States Golf Association / Green Section. *USGA Recommendations for a Method of Putting Green Construction.* 2004.

Golf Course Classification based on Quality Index System

The previously described Quality Index System is used to quantify which of the four Marshall and Swift Golf Course Classes that a golf course will be categorized in, using the following steps:

1. Assign points to each of the nine course improvement attributes as defined in the Quality Index System Points table **(Figure 1)**.
2. Add all of the points to determine the Quality Index Points total.
3. Cross reference the total Quality Index Points against a defined points range **(Figure 2)** to determine which of the four Marshall & Swift Golf Course Classes the course shall be categorized as

FIGURE 1. Quality Index System Points

Slope Rating/ Points*	Number of Bunkers / Points*	Acres of Greens / Points*
110 / 10	0 / 0	1 / 1
112 / 20	10 / 2	1.5 / 2
114 / 30	20 / 3	2 / 3
116 / 40	30 / 4	2.5 / 4
118 / 50	40 / 5	3 / 5
120 / 60	50 / 6	3.5 / 6
122 / 70	60 / 7	4 / 7
124 / 80	70 / 8	4.5 / 8
126 / 90	80 / 9	
128 / 100	90 / 10	
130 / 110	100 / 11	
132 / 120	110 / 12	
134 / 130		
136 / 140		
138 / 150		
141 / 160		

***** - Midpoints are proportioned accordingly.

If greens are built to **USGA specifications**, add 10 points

Bridges = 1 point each, to a maximum of 5 points

Bulkheaded Tees and Greens = 2 points each, to a maximum of 72 points

Double Row Irrigation = 10 points

Berms

Below Average	= 20 points
Below Average to Average	= 30 points
Average	= 40 points
Average to Above Average	= 50 points
Above Average	= 60 points

Elevated Tees and Greens

Below Average	= 20 points
Below Average to Average	= 30 points
Average	= 40 points
Average to Above Average	= 50 points
Above Average	= 60 points

FIGURE 2. Total Quality Index Point ranges for M & S Golf Course Class Classification

Quality Index Points	Marshall & Swift Golf Course Class
0 - 99	**Class 1**
100-198	**Class 2**
199 - 297	**Class 3**
298-396	**Class 4**

Adjustments

Adjustments may be applied depending on the presence, absence, or type of certain golf course improvement components. Examples of typical adjustments include presence and degree of cart path paving, irrigation automation systems (manual or automatic) and pumping plant.

Depreciation

The M & S Manual does not provide a suggested life for golf course improvements. Accordingly, there is no corresponding depreciation schedule for the golf course improvements. The Marshall Valuation Service rationale is based on the premise that the golf course improvements are in a constant state of repair and, therefore, are not intended to depreciate. Golf course improvements are always in a cyclical state of repair. Therefore, the City applies a fixed depreciation of 30% to the golf course improvements.

In practical application, the older the golf course, usually the more prestigious it becomes. In these cases, there is often considerable effort and expense put into upkeep in order to maintain the aesthetic nature of the course to meet the demands of members and tournament requirements.

Golf Course Improvements Assessment Example

The following example illustrates how the City calculates applicable points, determines the appropriate golf course class using the M & S Manual, and calculates the golf course improvements value.

Golf Club is an 18-hole course with the following golf course improvement attributes:

Quality Index Attributes	Input	Points
Slope Rating	125	85
Number of Bunkers	32	4.2
Acres of Greens	1.25	1.5
Greens to USGA Specifications	Yes	10
Bridges	3	3
Bulkheaded Tees and Greens	12	24
Double Row Irrigation	Yes	10
Berms and Undulations	Average	40
Elevated Tees and Greens	Average	40
Total points		**217.7**

The course's Quality Index Points total is 217.7 points, placing it within the 199 - 297 points range of a Class 3 golf course. The indicated cost range per hole for a Class 3 course is $197,000 - $290,000[4].

The value per hole is determined using the following equation:

[(Total Points - Minimum Points in Range for Class) / Points Range for Class] x Cost Range per hole in Class + Minimum Cost per hole Value in Class = Value per hole

[(217.7 - 199) / 98] x 93,000 + 197,000 = $214,500 per hole (rounded down)

Based on the Golf Club's overall quality index points, the value per hole is $214,500. Therefore, the total value of the golf course improvements equals $3,861,000 ($214,500 * 18 holes). No component adjustment was warranted for this golf course.

Next, the golf course improvements value is adjusted by the current cost multiplier of 1.14[5] and the local multiplier of 1.23[5] which results in $5,413,894. A fixed depreciation of 30% is applied, resulting in the golf course improvements value of $3,789,726. Finally, after the deduction of GST the total golf course improvement value for the Golf Course is $3,609,263.

[4] Marshall and Swift Valuation Service provides the cost ranges per hole for each golf course class and updates them bi-yearly. The cost range used in the example is from the December 2021 update.
[5] Marshall and Swift Valuation Service provides current cost and local multipliers applicable for Edmonton and updates them yearly. The multipliers used in the example are from the July 2023 update.

Golf Course Improvements Assessment Detail Report - example

2024 GOLF COURSE IMPROVEMENTS ASSESSMENT DETAIL REPORT

Account #	999999	Number of holes per account	18
Golf Course	Golf Course	Address	11111 Sample Road NW
Total number of holes on golf course	18	Date	

GOLF COURSE IMPROVEMENTS (APPLICABLE TO THE ENTIRE GOLF COURSE)			
Golf Course Improvement	Input	Points	
Slope rating	125	85	These golf course attributes and designated points are applicable to the entire golf course in order to determine the appropriate golf course classification. Marshall and Swift Valuation Service provides the cost range per hole for each golf course class.
Number of bunkers	32	4.2	
Acres of greens	1.25	1.5	
Greens to USGA specifications	Yes	10	
Bridges	3	3	
Bulkheaded tees and greens	12	24	
Double row irrigation	Yes	10	
Burms and undulations	AVERAGE	40	
Elevated tees and greens	AVERAGE	40	
Total Points		217.7	

VALUATION (APPLICABLE TO THIS ACCOUNT ONLY)		
Golf course class	3	See table below for reference
Suggested cost range per hole	$ 197,000 - $290,000	As per Marshall & Swift Manual
Interpolated value formula	[(Total points - minimum points in range)/points range)] x value range in class + minimum value in class = interpolated value per hole*	
Interpolated** value per hole	$214,500	See table below for reference
Total value (all holes per account)	$3,861,000	Interpolated value per hole x number of holes
Golf course component adjustment	No component adjustment	This adjustment is based on inspection
Golf course component adjustment amount	$0	This component adjustment is calculated for the entire Golf Course and then proportioned based on a number of holes per account.
Golf course improvement value with component adjustment	$3,861,000	After component adjustment
Current cost multiplier	1.14	Current cost and local multipliers applicable to Edmonton are provided by the Marshall and Swift Service
Local Multiplier	1.23	
Undepreciated golf course improvement value	$5,413,894	
Golf course improvement value less depreciation	$3,789,726	Fixed depreciation of 30% is applied to golf course improvements
2024 Total golf course improvement assessment without GST	$3,609,263	

Quality index points range	Marshall & Swift golf course class	Cost range per hole (as of December 2021)	Value range in class
0-99	1	$ 95,250 - $131,000	$35,750
100-198	2	$ 136,000 - $195,000	$59,000
199-297	3	$ 197,000 - $290,000	$93,000
298-396	4	$ 297,000 - $475,000	$178,000

* - For a more detailed explanation and sample refer to the 2024 Golf Courses Assessment Methodology.
** - Interpolation is a calculation of a value within two known values in a sequence of values.

References

Alberta Assessors' Association (2008). *Property Assessment in Alberta Handbook Valuation Module. Golf Courses.*

Appraisal Institute of Canada (1995). *The Appraisal of Real Estate Third Canadian Edition.* Vancouver, Canada.

Appraisal Institute of Canada (2005). *The Appraisal of Real Estate Third Canadian Edition.* Vancouver, Canada.

Appraisal Institute of Canada (2010). *The Appraisal of Real Estate Third Canadian Edition.* Vancouver, Canada.

City of Edmonton. (2018). *Zoning Bylaw No. 12800.* Retrieved from City of Edmonton: http://webdocs.edmonton.ca/InfraPlan/zoningbylaw/bylaw_12800.htm

Eckert, J., Gloudemans, R., & Almy, R. (1990). *Property Appraisal and Assessment Administration.* Chicago, Illinois: International Association of Assessing Officers.

International Association of Assessing Officers [IAAO]. (1997). Glossary for Property Appraisal and Assessment. Chicago IL.

Marshall and Swift Valuation Service Cost Manual, 2022, Corelogic Inc.

Moore, J. G., *Mass Appraisal of Golf Courses*. The International Association of Assessing Officers, July/August 1999, Volume 6 – Number 4 Assessment Journal.

Province of Alberta. (2018). *Matters Relating to Assessment and Taxation Regulation, 2018.* Edmonton, AB: King's Printer

Province of Alberta. (2019). *Municipal Government Act.* Edmonton, AB: King's Printer.

United States Golf Association / Green Section. (2004). *USGA Recommendations for a Method of Putting Green Construction*.