

ROYAL BANK OF CANADA  
Form 424B2  
April 05, 2019

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RBC Capital Markets® Filed Pursuant to Rule 424(b)(2)  
Registration Statement No. 333-227001

Pricing Supplement  
Dated April 3, 2019  
to the Product Prospectus  
Supplement FIN-1 dated  
September 20, 2018, and  
the Prospectus  
Supplement and  
Prospectus, each dated  
September 7, 2018

\$1,000,000  
10-Year U.S. Dollar ICE Swap Rate Linked  
Accrual Notes,  
due April 5, 2022  
Royal Bank of Canada

Royal Bank of Canada is offering the 10-Year U.S. Dollar ICE Swap Rate Linked Accrual Notes (the “Notes”) described below.

The CUSIP number for the Notes is 78014RAL4.

We will pay a contingent quarterly coupon on the Notes (each an “Interest Payment Date”), commencing on July 5, 2019.

The Notes will accrue interest at the rate of 6.00% per annum on each calendar day on which the 10-Year U.S. Dollar ICE Swap Rate (the “Reference Rate”) is greater than or equal to 1.8486%, as discussed in more detail below.

The payment at maturity will depend on the Reference Rate. If the Reference Rate is less than 1.8486% on the “Observation Date,” you could lose a substantial portion of the principal amount.

The Notes will not be listed on any securities exchange.

Investing in the Notes involves a number of risks. See “Risk Factors” beginning on page S-1 of the prospectus supplement dated September 7, 2018, “Additional Risk Factors Specific to the Notes” beginning on page PS-5 of the product prospectus supplement FIN-1 dated September 20, 2018 and “Additional Risk Factors” on page P-5 of this pricing supplement.

The Notes will not constitute deposits insured by the Canada Deposit Insurance Corporation, the U.S. Federal Deposit Insurance Corporation or any other Canadian or U.S. government agency or instrumentality. The Notes are not subject to conversion into our common shares under subsection 39.2(2.3) of the Canada Deposit Insurance Corporation Act. Neither the Securities and Exchange Commission (the “SEC”) nor any state securities commission has approved or disapproved of these securities or determined that this pricing supplement is truthful or complete. Any representation to the contrary is a criminal offense.

The initial estimated value of the Notes as of the date of this pricing supplement is \$994 per \$1,000 in principal amount, which is less than the price to public. The actual value of the Notes at any time will reflect many factors, cannot be predicted with accuracy, and may be less than this amount. We describe our determination of the initial estimated value in more detail below.

RBC Capital Markets, LLC will offer the Notes at varying public offering prices related to prevailing market prices, and will purchase the Notes from us on the issue date at purchase prices between 97.50 and 100.00% of the principal amount. See “Supplemental Plan of Distribution (Conflicts of Interest)” on page P-9 below.

We will deliver the Notes in book-entry only form through the facilities of The Depository Trust Company on April 5, 2019, against payment in immediately available funds.

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SUMMARY

The information in this “Summary” section is qualified by the more detailed information set forth in this pricing supplement, the product prospectus supplement FIN-1, the prospectus supplement, and the prospectus.

Issuer: Royal Bank of Canada (“Royal Bank”)  
Underwriter: RBC Capital Markets, LLC  
Currency: U.S. Dollars  
Minimum Investment: \$1,000 and minimum denominations of \$1,000 in excess of \$1,000  
Pricing Date: April 3, 2019  
Issue Date: April 5, 2019  
Maturity Date: April 5, 2022  
Observation Date: March 29, 2022. If that date is not a U.S. government securities settlement day, then the Observation Date will be the prior business day that is a U.S. government securities settlement day.  
Where:  
“A” is the total number of calendar days in the applicable interest period on which the Reference Rate is greater than or equal to 1.8486%; and  
“B” is the total number of calendar days in the applicable interest period.  
Interest Rate: Interest payments for each interest period will be calculated using a 30 / 360 day count basis.

The Reference Rate on any non-business day will be equal to the rate on the immediately preceding business day, and for the last four business days before each Interest Payment Date, the Reference Rate will be determined by reference to its level on the fifth business day before such Interest Payment Date. As a result of the formula above, the maximum interest payable on the Notes will be 6.00% per annum. Quarterly, on the 5<sup>th</sup> day of each January, April, July and October, commencing on July 5, 2019. If any payment date on the Notes is not a New York or London business day, that payment will be postponed to the next such business day, and no additional interest will accrue on the Notes as a result of such postponement.

Interest Payment Dates: 10-Year U.S. Dollar ICE Swap Rate, displayed on Reuters page ISDAFIX1 at or around 11.00am New York City time on the Observation Date. The rates reported on that page are calculated by ICE Benchmark Administration Limited based on tradeable quotes for the related interest rate swaps of the relevant tenor that are sourced from electronic trading venues.

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| Final Reference Rate:                      | The Reference Rate on the Observation Date.   |
| Payment at Maturity:                       | If the Final Reference Rate is greater than or equal to 1.8486%, we will pay you the principal amount, together with the applicable interest payment.<br>If the Final Reference Rate is less than 1.8486%, in addition to the applicable interest payment, we will pay you an amount equal to: (a) the principal amount multiplied by (b) a fraction, the numerator of which is the Final Reference Rate and the denominator of which is 2.3700%. This payment will not be less than \$0.00. In this case, you could lose all or substantially all of the principal amount of the Notes.  |
| U.S. Government Securities Settlement Day: | Any day except a Saturday, a Sunday, or a day on which The Securities Industry and Financial Markets Association (or any successor thereto) recommends that the fixed income departments of its members be closed for the entire day for purposes of trading in U.S. government securities.<br>By purchasing a Note, each holder agrees (in the absence of a change in law, an administrative determination or a judicial ruling to the contrary) to treat the Note as a pre-paid cash-settled contingent income-bearing derivative contract linked to the Reference Rate for U.S. federal income tax purposes.   |
| U.S. Tax Treatment:                        | However, the U.S. federal income tax consequences of your investment in the Notes are uncertain and the Internal Revenue Service could assert that the Notes should be taxed in a manner that is different from that described in the preceding sentence. Please see the section below, “Supplemental Discussion of U.S. Federal Income Tax Consequences,” and the discussion in the product prospectus supplement dated September 20, 2018 under “Tax Consequences,” which apply to the Notes.<br>The Notes are not intended for purchase by any investor that is not a United States person, as that term is defined for U.S. federal income tax purposes, and no dealer may make offers of the Notes to any such investor. Each investor, by purchasing the Notes, agrees not to transfer them to any person or entity that is not a United States person. |
| Distribution:                              |   |
| Calculation Agent:                         | RBC Capital Markets, LLC  |
| Early Redemption:                          | Not applicable.   |
| Survivor’s Option:                         | Not applicable.   |
| Listing:                                   | The Notes will not be listed on any securities exchange.  |
| Clearance and Settlement:                  | DTC global (including through its indirect participants Euroclear and Clearstream, Luxembourg as described under “Description of Debt Securities—Ownership and Book-Entry Issuance” in the prospectus dated September 7, 2018).   |
| Terms Incorporated in the Master Note:     | All of the terms appearing above the item captioned “Listing” on page P-2 and page P-3 of this pricing supplement and the terms appearing under the caption “General Terms of the Notes” in the product prospectus supplement FIN-1 dated September 20, 2018, as modified by this pricing supplement.   |

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#### ADDITIONAL TERMS OF YOUR NOTES

You should read this pricing supplement together with the prospectus dated September 7, 2018, as supplemented by the prospectus supplement dated September 7, 2018 and the product prospectus supplement FIN-1 dated September 20, 2018, relating to our Senior Global Medium-Term Notes, Series H, of which these Notes are a part. Capitalized terms used but not defined in this pricing supplement will have the meanings given to them in the product prospectus supplement FIN-1. In the event of any conflict, this pricing supplement will control. The Notes vary from the terms described in the product prospectus supplement FIN-1 in several important ways. You should read this pricing supplement carefully.

This pricing supplement, together with the documents listed below, contains the terms of the Notes and supersedes all prior or contemporaneous oral statements as well as any other written materials including preliminary or indicative pricing terms, correspondence, trade ideas, structures for implementation, sample structures, brochures or other educational materials of ours. You should carefully consider, among other things, the matters set forth in “Risk Factors” in the prospectus supplement dated September 7, 2018, “Additional Risk Factors Specific to the Notes” in the product prospectus supplement FIN-1 dated September 20, 2018 and “Additional Risk Factors” in this pricing supplement, as the Notes involve risks not associated with conventional debt securities. We urge you to consult your investment, legal, tax, accounting and other advisors before you invest in the Notes. You may access these documents on the SEC website at [www.sec.gov](http://www.sec.gov) as follows (or if that address has changed, by reviewing our filings for the relevant date on the SEC website):

Prospectus dated September 7, 2018:

<https://www.sec.gov/Archives/edgar/data/1000275/000121465918005973/196181424b3.htm>

Prospectus Supplement dated September 7, 2018:

<https://www.sec.gov/Archives/edgar/data/1000275/000121465918005975/f97180424b3.htm>

Product Prospectus Supplement FIN-1 dated September 20, 2018:

<https://www.sec.gov/Archives/edgar/data/1000275/000114036118038802/form424b5.htm>

Our Central Index Key, or CIK, on the SEC website is 1000275. As used in this pricing supplement, “we,” “us,” or “our” refers to Royal Bank of Canada.

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**ADDITIONAL RISK FACTORS**

The Notes involve risks not associated with an investment in ordinary fixed rate notes. This section describes the most significant risks relating to the terms of the Notes. For additional information as to these risks, please see the product prospectus supplement FIN-1 dated September 20, 2018 and the prospectus supplement dated September 7, 2018. You should carefully consider whether the Notes are suited to your particular circumstances before you decide to purchase them. Accordingly, prospective investors should consult their financial and legal advisors as to the risks entailed by an investment in the Notes and the suitability of the Notes in light of their particular circumstances.

**You May Lose a Portion of the Principal Amount at Maturity.** Investors in the Notes could lose a substantial portion of their principal amount at maturity if there is a decline in the Reference Rate below 1.8486%. The interest payments that you receive on the Notes may not be sufficient to compensate you for any loss of the principal.

**The Maximum Return on the Notes Is Limited to Principal Plus Interest, Regardless of Any Appreciation in the Reference Rate.** Investors will not receive a payment at maturity with a value greater than the principal amount invested plus interest. This will be the case even if the Reference Rate increases significantly above 1.8486%, even though the investor has downside exposure. As a result of the formula described above, the maximum interest payable on the Notes will be 6.00% per annum.

**The Amount of Interest Payable on the Notes Is Uncertain and Could Be Zero.** The amount of interest payable on the Notes in any interest period will be dependent on the total number of calendar days in the applicable interest period on which the Reference Rate is greater than or equal to 1.8486%. If the Reference Rate remains below 1.8486% for the entire interest period, there will be no interest payable for the applicable interest period. In addition, if the Reference Rate is above 1.8486% for only a limited number of days in the applicable interest period, the applicable interest payment for that period will be less than your desired investment return. As a result of these factors, the effective yield on the Notes may be less than what would be payable on our conventional, fixed-rate redeemable notes of comparable maturity. The actual interest payments paid on the Notes may not compensate you for the effects of inflation and other factors relating to the value of money over time or the possible loss of principal at maturity.

**Investors Are Subject to Our Credit Risk, and Our Credit Ratings and Credit Spreads May Adversely Affect the Market Value of the Notes.** Investors are dependent on Royal Bank's ability to pay all amounts due on the Notes on interest payment dates and at maturity, and, therefore, investors are subject to the credit risk of Royal Bank and to changes in the market's view of Royal Bank's creditworthiness. Any decrease in Royal Bank's credit ratings or increase in the credit spreads charged by the market for taking Royal Bank's credit risk is likely to adversely affect the market value of the Notes.

**The Initial Estimated Value of the Notes Is Less than the Price to the Public.** The initial estimated value set forth on the cover page does not represent a minimum price at which we, RBCCM or any of our affiliates would be willing to purchase the Notes in any secondary market (if any exists) at any time. If you attempt to sell the Notes prior to maturity, their market value may be lower than the price you paid for them and the initial estimated value. This is due to, among other things, changes in the level of the Reference Rate, the borrowing rate we pay to issue securities of this kind, and the inclusion in the price to the public of the underwriting discount and the estimated costs relating to our hedging of the Notes. These factors, together with various credit, market and economic factors over the term of the Notes, are expected to reduce the price at which you may be able to sell the Notes in any secondary market and will affect the value of the Notes in complex and unpredictable ways. Assuming no change in market conditions or any other relevant factors, the price, if any, at which you may be able to sell your Notes prior to maturity may be less than your original purchase price, as any such sale price would not be expected to include the underwriting discount and the hedging costs relating to the

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Notes. In addition to bid-ask spreads, the value of the Notes determined for any secondary market price is expected to be based on the secondary rate rather than the internal funding rate used to price the Notes and determine the initial estimated value. As a result, the secondary price will be less than if the internal funding rate was used. The Notes are not designed to be short-term trading instruments. Accordingly, you should be able and willing to hold your Notes to maturity.

The Initial Estimated Value of the Notes on the Cover Page Is an Estimate Only, Calculated as of the Time the Terms of the Notes Were Set. The initial estimated value of the Notes is based on the value of our obligation to make the payments on the Notes, together with the mid-market value of the derivative embedded in the terms of the Notes. See “Structuring the Notes” below. Our estimate is based on a variety of assumptions, including our credit spreads, expectations as to interest rates and volatility, and the expected term of the Notes. These assumptions are based on certain forecasts about future events, which may prove to be incorrect. Other entities may value the Notes or similar securities at a price that is significantly different than we do.

The value of the Notes at any time after the pricing date will vary based on many factors, including changes in market conditions, and cannot be predicted with accuracy. As a result, the actual value you would receive if you sold the Notes in any secondary market, if any, should be expected to differ materially from the initial estimated value of your Notes.

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### HYPOTHETICAL RETURNS ON THE NOTES

#### Hypothetical Examples of Interest Payable

The following examples illustrate how the per annum interest rate and interest payments would be calculated for a given interest period under different scenarios, based on the terms set forth above. All of the examples are based on the maximum interest rate of 6.00% (1.50% for each quarterly interest period, or \$15.00 per \$1,000 in principal amount of the Notes per quarter). The examples assume that there are 90 calendar days in the relevant quarter. The Notes will have quarterly Interest Payment Dates, and interest payments for each interest period will be calculated using a 30/360 day count basis.

The values in the examples below have been chosen arbitrarily for the purpose of these examples, and should not be taken as an indication of the future performance of the Reference Rate, or the amount of interest payable on the Notes. Numbers in the table below have been rounded for ease of analysis.

| Number of Calendar Days on which the Reference Rate was above 1.8486% ("A") | Number of Days in the Interest Period ("B") | Interest Rate (Per Annum) = | Hypothetical Quarterly Interest Payment (\$1,000 x Per Annum Interest Rate) Divided by 4 |
|---|---|-----------------------------|--|
| 90  | 90  | 6.00%                       | \$15.00  |
| 45  | 90  | 3.00%                       | \$7.50   |
| 30  | 90  | 2.00%                       | \$5.00   |
| 0   | 90  | 0.00%                       | \$0.00   |

The examples below illustrate the hypothetical return at maturity on a \$1,000 investment in the Notes. The "return," as used in this section is the number, expressed as a percentage, which results from comparing the payments on the Notes per \$1,000 in principal amount to \$1,000. The hypothetical total returns set forth below are based on the assumption that the Notes will be held for a full year. The hypothetical returns set forth below are for illustrative purposes only and may not be the actual returns applicable to investors in the Notes. The numbers appearing in the examples below have been rounded for ease of analysis.

#### Hypothetical Examples of Amounts Payable at Maturity

Example 1: On the Observation Date, the Final Reference Rate is 2.75%. Because the Final Reference Rate is greater than 1.8486%, the investor receives a payment at maturity of \$1,000, in addition to any interest payments received over the entire term of the Notes.

Example 2: On the Observation Date, the Final Reference Rate is 1.8486%. Because the Final Reference Rate is equal to 1.8486%, the investor receives a payment at maturity of \$1,000, in addition to any interest payments received over the entire term of the Notes.

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Example 3: On the Observation Date, the Final Reference Rate is 1.10%. Because the Final Reference Rate is less than 1.8486%, in addition to any interest payments received over the entire term of the Notes, the investor will receive a payment at maturity equal to \$464.14, calculated as follows:

$$\$1,000 \times (1.10\% \div 2.3700\%) = \$464.14$$

Example 4: On the Observation Date, the Final Reference Rate is 0.80%. Because the Final Reference Rate is less than 1.8486%, in addition to any interest payments received over the entire term of the Notes, the investor will receive a payment at maturity equal to \$337.55, calculated as follows:

$$\$1,000 \times (0.80\% \div 2.3700\%) = \$337.55$$

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#### HISTORICAL INFORMATION

Historically, the Reference Rate has experienced significant fluctuations. Any historical upward or downward trend in this rate during any period shown below is not an indication of the level of the Reference Rate on the Observation Date or at any other time during the term of the Notes. Royal Bank cannot make any assurances that the future level of the Reference Rate will result in holders of the Notes receiving the full principal amount at maturity.

The Reference Rate was 2.499% on April 3, 2019. The graph below sets forth the historical performance of the Reference Rate from January 1, 2009 through April 3, 2019.

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**SUPPLEMENTAL PLAN OF DISTRIBUTION (CONFLICTS OF INTEREST)**

The Notes are not intended for purchase by any investor that is not a United States person, as that term is defined for U.S. federal income tax purposes, and no dealer may make offers of the Notes to any such investor. Each investor, by purchasing the Notes, agrees not to transfer them to any person or entity that is not a United States person.

Delivery of the Notes will be made against payment for the Notes on April 5, 2019.

For additional information as to the relationship between us and RBC Capital Markets, LLC, please see the section “Plan of Distribution—Conflicts of Interest” in the prospectus dated September 7, 2018.

After the initial offering of the Notes, the price to the public may change.

The value of the Notes shown on your account statement may be based on RBCCM’s estimate of the value of the Notes if RBCCM or another of our affiliates were to make a market in the Notes (which it is not obligated to do). That estimate will be based upon the price that RBCCM may pay for the Notes in light of then prevailing market conditions, our creditworthiness and transaction costs. For a period of up to approximately three months after the issue date of the Notes, the value of the Notes that may be shown on your account statement is expected to be higher than RBCCM’s estimated value of the Notes at that time. This is because the estimated value of the Notes will not include the underwriting discount and our hedging costs and profits; however, the value of the Notes shown on your account statement during that period may initially be a higher amount, reflecting the addition of RBCCM’s underwriting discount and our estimated costs and profits from hedging the Notes. This excess is expected to decrease over time until the end of this period. After this period, if RBCCM repurchases your Notes, it expects to do so at prices that reflect their estimated value.

We may use this pricing supplement in the initial sale of the Notes. In addition, RBC Capital Markets, LLC or another of our affiliates may use this pricing supplement in a market-making transaction in the Notes after their initial sale. Unless we or our agent informs the purchaser otherwise in the confirmation of sale, this pricing supplement is being used in a market-making transaction.

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STRUCTURING THE NOTES

The Notes are our debt securities, the return on which is linked to the Reference Rate. As is the case for all of our debt securities, including our structured notes, the economic terms of the Notes reflect our actual or perceived creditworthiness at the time of pricing. In addition, because structured notes result in increased operational, funding and liability management costs to us, we typically borrow the funds under these Notes at a rate that is more favorable to us than the rate that we might pay for a conventional fixed or floating rate debt security of comparable maturity. Using this relatively lower implied borrowing rate rather than the secondary market rate, is a factor that reduced the initial estimated value of the Notes at the time their terms were set. Unlike the estimated value included in this pricing supplement, any value of the Notes determined for purposes of a secondary market transaction may be based on a different funding rate, which may result in a lower value for the Notes than if our initial internal funding rate were used.

In order to satisfy our payment obligations under the Notes, we may choose to enter into certain hedging arrangements (which may include call options, put options or other derivatives) on the issue date with RBCCM or one of our other subsidiaries. The terms of these hedging arrangements take into account a number of factors, including our creditworthiness, interest rate movements, the volatility of the Reference Rate, and the tenor of the Notes. The economic terms of the Notes and their initial estimated value depend in part on the terms of these hedging arrangements.

The lower implied borrowing rate is a factor that reduced the economic terms of the Notes to you. The initial offering price of the Notes also reflects the underwriting commission and our estimated hedging costs. These factors resulted in the initial estimated value for the Notes on the pricing date being less than their public offering price. See “Additional Risk Factors—The Initial Estimated Value of the Notes Is Less than the Price to the Public” above.

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**SUPPLEMENTAL DISCUSSION OF  
U.S. FEDERAL INCOME TAX CONSEQUENCES**

The following is a general description of the material U.S. tax considerations relating to the Notes. It does not purport to be a complete analysis of all tax considerations relating to the Notes. Prospective purchasers of the Notes should consult their tax advisors as to the consequences under the tax laws of the country of which they are resident for tax purposes and the tax laws of the U.S. of acquiring, holding and disposing of the Notes and receiving payments under the Notes. This summary is based upon the law as in effect on the date of this document and is subject to any change in law that may take effect after such date.

The following section supplements the discussion of U.S. federal income taxation in the accompanying prospectus and prospectus supplement and it supersedes the discussion of U.S. federal income taxation in the accompanying product prospectus supplement. It applies only to those holders who are not excluded from the discussion of U.S. federal income taxation in the accompanying prospectus. This discussion applies only to U.S. holders and non-U.S. holders that will purchase the Notes upon original issuance and will hold the Notes as capital assets for U.S. federal income tax purposes. In addition, the discussion below assumes that an investor in the Notes will be subject to a significant risk that it will lose a significant amount of its investment in the Notes.

You should consult your tax advisor concerning the U.S. federal income tax and other tax consequences of your investment in the Notes in your particular circumstances, including the application of state, local or other tax laws and the possible effects of changes in federal or other tax laws.

**NO STATUTORY, JUDICIAL OR ADMINISTRATIVE AUTHORITY DIRECTLY DISCUSSES HOW THE NOTES SHOULD BE TREATED FOR U.S. FEDERAL INCOME TAX PURPOSES. AS A RESULT, THE U.S. FEDERAL INCOME TAX CONSEQUENCES OF AN INVESTMENT IN THE NOTES ARE UNCERTAIN. BECAUSE OF THE UNCERTAINTY, YOU SHOULD CONSULT YOUR TAX ADVISOR IN DETERMINING THE U.S. FEDERAL INCOME TAX AND OTHER TAX CONSEQUENCES OF YOUR INVESTMENT IN THE NOTES, INCLUDING THE APPLICATION OF STATE, LOCAL OR OTHER TAX LAWS AND THE POSSIBLE EFFECTS OF CHANGES IN FEDERAL OR OTHER TAX LAWS.**

In the opinion of our counsel, Morrison & Foerster LLP, it would generally be reasonable to treat a note with terms described in this document as a pre-paid cash-settled contingent income-bearing derivative contract linked to the Reference Rate for U.S. federal income tax purposes, and the terms of the Notes require a holder and us (in the absence of a change in law or an administrative or judicial ruling to the contrary) to treat the Notes for all tax purposes in accordance with such characterization. In addition, we intend to treat the coupons as U.S. source income for U.S. federal income tax purposes. The following discussion assumes that the treatment described in this paragraph is proper and will be respected.

Although the U.S. federal income tax treatment of the contingent coupon is uncertain, we intend to take the position, and the following discussion assumes, that such contingent coupon (including any contingent coupon paid on or with respect to the maturity date) constitutes taxable ordinary income to a U.S. holder at the time received or accrued in accordance with the holder's regular method of tax accounting. If the Notes are so treated, a U.S. holder should generally recognize capital gain or loss upon the sale or maturity of the Notes in an amount equal to the difference between the cash amount a holder receives at such time (other than amounts properly attributable to any contingent coupon, which would be taxed, as described above, as ordinary income) and the holder's tax basis in the Notes. In general, a U.S. holder's tax basis in the Notes will be equal to the price the holder paid for the Notes. Capital gain recognized by an individual U.S. holder is generally taxed at preferential rates where the property is held for more than one year and is generally taxed at ordinary income rates where the property is held for one year or less. The ordinary income treatment of the contingent coupons, in conjunction with the capital loss treatment of any loss recognized upon the sale, exchange or maturity of the Notes, could result in adverse tax consequences to a holder because the deductibility of capital losses is subject to limitations.

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**Alternative Treatments.** Alternative tax treatments of the Notes are also possible and the Internal Revenue Service might assert that a treatment other than that described above is more appropriate. For example, it is possible to treat the Notes, and the Internal Revenue Service might assert that the Notes should be treated, as a single debt instrument. Because the securities have a term that exceeds one year, such a debt instrument would be subject to the special tax rules governing contingent payment debt instruments. If the securities are so treated, a holder would generally be required to accrue interest income over the term of the securities based upon the yield at which we would issue a non-contingent fixed-rate debt instrument with other terms and conditions similar to the securities. In addition, any gain a holder might recognize upon the sale or maturity of the securities would be ordinary income and any loss recognized by a holder at such time would generally be ordinary loss to the extent of interest that same holder included in income in the current or previous taxable years in respect of the securities, and thereafter, would be capital loss.

Because of the absence of authority regarding the appropriate tax characterization of the Notes, it is also possible that the Internal Revenue Service could seek to characterize the Notes in a manner that results in other tax consequences that are different from those described above. For example, the Internal Revenue Service could possibly assert that any gain or loss that a holder may recognize upon the sale or maturity of the Notes should be treated as ordinary gain or loss.

The Internal Revenue Service has released a notice that may affect the taxation of holders of “prepaid forward contracts” and similar instruments. According to the notice, the Internal Revenue Service and the U.S. Treasury Department are actively considering whether the holder of such instruments should be required to accrue ordinary income on a current basis. While it is not clear whether the Notes would be viewed as similar to such instruments, it is possible that any future guidance could materially and adversely affect the tax consequences of an investment in the Notes, possibly with retroactive effect.

**Backup Withholding and Information Reporting.** Payments made with respect to the Notes and proceeds from the sale or exchange of the Notes may be subject to a backup withholding tax unless, in general, the holder complies with certain procedures or is an exempt recipient. Any amounts so withheld generally will be refunded by the Internal Revenue Service or allowed as a credit against the holder's U.S. federal income tax liability, provided the holder makes a timely filing of an appropriate tax return or refund claim to the Internal Revenue Service.

Reports will be made to the Internal Revenue Service and to holders that are not exempted from the reporting requirements.

**Non-U.S. holders.** The following discussion applies to non-U.S. holders of the Notes. A non-U.S. holder is a beneficial owner of a Note that, for U.S. federal income tax purposes, is a non-resident alien individual, a foreign corporation, or a foreign estate or trust.

While the U.S. federal income tax treatment of the Notes (including proper characterization of the contingent coupons for U.S. federal income tax purposes) is uncertain, U.S. federal income tax at a 30% rate (or at a lower rate under an applicable income tax treaty) will be withheld in respect of the contingent coupons paid to a non-U.S. holder unless such payments are effectively connected with the conduct by the non-U.S. holder of a trade or business in the U.S. (in which case, to avoid withholding, the non-U.S. holder will be required to provide a Form W-8ECI). We will not pay any additional amounts in respect of such withholding. To claim benefits under an income tax treaty, a non-U.S. holder must obtain a taxpayer identification number and certify as to its eligibility under the appropriate treaty's limitations on benefits article, if applicable (which certification may generally be made on a Form W-8BEN or W-8BEN-E, or a substitute or successor form). In addition, special rules may apply to claims for treaty benefits made by corporate non-U.S. holders. A non-U.S. holder that is eligible for a reduced rate of U.S. federal withholding tax pursuant to an income tax treaty may obtain a refund of any excess amounts withheld by filing an appropriate claim for refund with the Internal Revenue Service. The availability of a lower rate of withholding or an exemption from withholding under an applicable income tax treaty will depend on the proper characterization of the contingent

coupons under U.S. federal income tax laws and whether such treaty rate or exemption applies to such contingent coupon payments. No assurance can be provided on the proper characterization of the contingent coupons for U.S. federal income tax purposes and,

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accordingly, no assurance can be provided on the availability of benefits under any income tax treaty. Non-U.S. holders should consult their tax advisors in this regard.

Except as discussed below, a non-U.S. holder will generally not be subject to U.S. federal income or withholding tax on any gain (not including, for the avoidance of doubt, any amounts properly attributable to any contingent coupon which would be subject to the rules discussed in the previous paragraph) upon the sale or maturity of the Notes, provided that (i) the holder complies with any applicable certification requirements (which certification may generally be made on a Form W-8BEN or W-8BEN-E, or a substitute or successor form), (ii) the payment is not effectively connected with the conduct by the holder of a U.S. trade or business, and (iii) if the holder is a non-resident alien individual, such holder is not present in the U.S. for 183 days or more during the taxable year of the sale or maturity of the Notes. In the case of (ii) above, the holder generally would be subject to U.S. federal income tax with respect to any income or gain in the same manner as if the holder were a U.S. holder and, in the case of a holder that is a corporation, the holder may also be subject to a branch profits tax equal to 30% (or such lower rate provided by an applicable U.S. income tax treaty) of a portion of its earnings and profits for the taxable year that are effectively connected with its conduct of a trade or business in the U.S., subject to certain adjustments. Payments made to a non-U.S. holder may be subject to information reporting and to backup withholding unless the holder complies with applicable certification and identification requirements as to its foreign status.

As discussed above, alternative characterizations of the Notes for U.S. federal income tax purposes are possible. Should an alternative characterization, by reason of change or clarification of the law, by regulation or otherwise, cause payments as to the Notes to become subject to withholding tax in addition to the withholding tax described above, we will withhold tax at the applicable statutory rate. The Internal Revenue Service has also indicated that it is considering whether income in respect of instruments such as the Notes should be subject to withholding tax. We will not be required to pay any additional amounts in respect of such withholding. Prospective investors should consult their own tax advisors in this regard.

Foreign Account Tax Compliance Act. The Foreign Account Tax Compliance Act (“FATCA”), imposes a 30% U.S. withholding tax on certain U.S. source payments of interest (and OID), dividends, or other fixed or determinable annual or periodical gain, profits, and income, and on the gross proceeds from a disposition of property (including payments at maturity, or upon a redemption or sale) of a type which can produce U.S. source interest or dividends (“withholdable payments”), if paid to a foreign financial institution (including amounts paid to a foreign financial institution on your behalf) unless such institution enters into an agreement with the U.S. Treasury Department to collect and provide to the U.S. Treasury Department certain information regarding U.S. account holders, including certain account holders that are foreign entities with U.S. owners, with such institution or otherwise complies with FATCA. In addition, the Notes may constitute a “financial account” for these purposes and thus, be subject to information reporting requirements pursuant to FATCA. The legislation also generally imposes a withholding tax of 30% on withholdable payments made to a non-financial foreign entity, unless that entity provides the withholding agent with a certification that it does not have any substantial U.S. owners or a certification identifying the direct and indirect substantial U.S. owners of the entity.

The U.S. Treasury Department and the IRS have announced that withholding on payments of gross proceeds from a sale or redemption of the Notes will only apply to payments made after December 31, 2018. However, recently proposed regulations eliminate the requirement of withholding on gross proceeds from the sale or disposition of financial instruments. The U.S. Treasury Department has indicated that taxpayers may rely on these proposed regulations pending their finalization. We will not pay additional amounts with respect to any FATCA withholding. Therefore, if such withholding applies, any payments on the Notes will be significantly less than what you would have otherwise received. Depending on your circumstances, these amounts withheld may be creditable or refundable to you. Foreign financial institutions and non-financial foreign entities located in jurisdictions that have an intergovernmental agreement with the United States governing FATCA may be subject to different rules. You are

urged to consult with your own tax advisor regarding the possible implications of FATCA on your investment in the Notes.

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#### VALIDITY OF THE NOTES

In the opinion of Norton Rose Fulbright Canada LLP, the issue and sale of the Notes has been duly authorized by all necessary corporate action of the Bank in conformity with the Indenture, and when the Notes have been duly executed, authenticated and issued in accordance with the Indenture and delivered against payment therefor, the Notes will be validly issued and, to the extent validity of the Notes is a matter governed by the laws of the Province of Ontario or Québec, or the laws of Canada applicable therein, and will be valid obligations of the Bank, subject to equitable remedies which may only be granted at the discretion of a court of competent authority, subject to applicable bankruptcy, to rights to indemnity and contribution under the Notes or the Indenture which may be limited by applicable law; to insolvency and other laws of general application affecting creditors' rights, to limitations under applicable limitations statutes, and to limitations as to the currency in which judgments in Canada may be rendered, as prescribed by the Currency Act (Canada). This opinion is given as of the date hereof and is limited to the laws of the Provinces of Ontario and Québec and the federal laws of Canada applicable thereto. In addition, this opinion is subject to customary assumptions about the Trustee's authorization, execution and delivery of the Indenture and the genuineness of signatures and certain factual matters, all as stated in the letter of such counsel dated September 7, 2018, which has been filed as Exhibit 5.1 to Royal Bank's Form 6-K filed with the SEC dated September 7, 2018. In the opinion of Morrison & Foerster LLP, when the Notes have been duly completed in accordance with the Indenture and issued and sold as contemplated by the prospectus supplement and the prospectus, the Notes will be valid, binding and enforceable obligations of Royal Bank, entitled to the benefits of the Indenture, subject to applicable bankruptcy, insolvency and similar laws affecting creditors' rights generally, concepts of reasonableness and equitable principles of general applicability (including, without limitation, concepts of good faith, fair dealing and the lack of bad faith). This opinion is given as of the date hereof and is limited to the laws of the State of New York. This opinion is subject to customary assumptions about the Trustee's authorization, execution and delivery of the Indenture and the genuineness of signatures and to such counsel's reliance on the Bank and other sources as to certain factual matters, all as stated in the legal opinion dated September 7, 2018, which has been filed as Exhibit 5.2 to the Bank's Form 6-K dated September 7, 2018.

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