

NATIONAL RURAL UTILITIES COOPERATIVE FINANCE CORP /DC/  
 Form 424B3  
 February 25, 2019

CALCULATION OF REGISTRATION FEE

| Title of Each Class<br>of Securities<br>Offered | Maximum<br>Aggregate<br>Offering<br>Price | Amount of<br>Registration Fee(1)(2) |
|---|---|-------------------------------------|
|---|---|-------------------------------------|

|                   |             |          |
|-------------------|-------------|----------|
| 3.050%            |             |          |
| InterNotes® Due   | \$1,371,000 | \$166.17 |
| February 15, 2024 |             |          |

|                   |           |         |
|-------------------|-----------|---------|
| 3.500%            |           |         |
| InterNotes® Due   | \$537,000 | \$65.08 |
| February 15, 2029 |           |         |

(1) Calculated in accordance with Rule 457(r) under the Securities Act of 1933.

(2) The amount in this column has been transmitted to the SEC in connection with the securities offered by means of this pricing supplement.

Filed Under Rule 424(b)(3), Registration Statement No. 333-221261  
 Pricing Supplement Number 478 Dated Monday, February 25, 2019  
 (To: Prospectus Dated November 1, 2017 and Prospectus Supplement Dated November 3, 2017)

| CUSIP Number | Principal Amount | Selling Price | Gross Concession | Net Proceeds   | Coupon Type | Coupon Rate | Coupon Frequency | Maturity Date | 1st Coupon Date |
|--------------|------------------|---------------|------------------|----------------|-------------|-------------|------------------|---------------|-----------------|
| 63743FH74    | \$1,371,000      | 100%          | 1.250%           | \$1,353,862.50 | Fixed       | 3.050%      | MONTHLY          | 02/15/2024    | 03/15/2019      |

Redemption Information: Non-Callable

| CUSIP Number | Principal Amount | Selling Price | Gross Concession | Net Proceeds | Coupon Type | Coupon Rate | Coupon Frequency | Maturity Date | 1st Coupon Date | 1st Coupon Amount |
|--------------|------------------|---------------|------------------|--------------|-------------|-------------|------------------|---------------|-----------------|-------------------|
| 63743FH82    | \$537,000        | 100%          | 1.800%           | \$527,334.00 | Fixed       | 3.500%      | MONTHLY          | 02/15/2029    | 03/15/2019      | \$1.0             |

Redemption Information: Non-Callable

|   |  |  |
|---|--|--|
| National Rural Utilities<br>Cooperative Finance<br>Corp | Offering Dates: Tuesday, February 19, 2019 through<br>Monday, February 25, 2019<br><br>Trade Date: Monday, February 25, 2019 @ 12:00 PM ET<br>Settlement Date: Thursday, February 28, 2019<br>Minimum Denomination/Increments: \$1,000.00/\$1,000.00<br>Initial trades settle flat and clear SDFS: DTC Book Entry<br>only<br>DTC number: 0235 via RBC Dain Rauscher Inc. | National Rural Utilities<br>Cooperative Finance Corp<br>Prospectus Dated November 1,<br>2017 |
|---|--|--|

Agents: Incapital, LLC, Citigroup, J.J.B. Hilliard, W.L.  
Lyons, Inc., Wells  
Fargo Advisors, RBC Capital Markets

If the maturity date or an interest payment date for any note is not a Business Day (as term is defined in Prospectus), principal, premium, if any, and interest for that note is paid on the next Business Day, and no interest will accrue from, and after, the maturity date or interest payment date.

Validity of the Notes

In the opinion of Hogan Lovells US LLP, as counsel to the Company, when the notes offered by this pricing supplement have been executed and issued by the Company and authenticated by the trustee pursuant to the indenture, and delivered against payment as contemplated herein, such notes will constitute valid and binding obligations of the Company, subject to bankruptcy, insolvency, reorganization, receivership, moratorium and other laws affecting creditors' rights (including, without limitation, the effect of statutory and other

law regarding fraudulent conveyances, fraudulent transfers and preferential transfers), and by the exercise of judicial discretion and the application of principles of equity, good faith, fair dealing, reasonableness, conscionability and materiality (regardless of whether the applicable agreements are considered in a proceeding in equity or at law).

This opinion is based as to matters of law solely on applicable provisions of the following, as currently in effect: (i) the District of Columbia Cooperative Association Act, as amended (the "Cooperative Association Act") and (ii) the laws of the State of New York (but not including any laws, statutes, ordinances, administrative decisions, rules or regulations of any political subdivision below the state level). In addition, this opinion is subject to customary assumptions about the trustee's authorization, execution and delivery of the indenture and its authentication of the notes and the validity, binding nature and enforceability of the indenture with respect to the trustee, all as stated in the letter of such counsel dated November 3, 2017, which has been filed as an exhibit to a Current Report on Form 8-K by the Company on November 3, 2017.

#### Material U.S. Federal Income Tax Considerations

The disclosure in the Prospectus Supplement dated November 3, 2017 (the "Prospectus Supplement") relating to the Prospectus dated November 1, 2017 (the "Base Prospectus" and together with the Prospectus Supplement the "Prospectus") in the section titled "Material U.S. Federal Income Tax Considerations" beginning on page S-26 under the subsection titled "General" on page S-26 is amended and restated as follows:

"General

This section summarizes the material U.S. tax considerations to holders of the notes. However, the discussion is limited in the following ways:

The discussion only covers you if you buy your notes in the initial offering of a particular issuance of notes.

The discussion only covers you if you hold your notes as a capital asset (generally, for investment purposes), your functional currency is the U.S. dollar (if you are a U.S. holder) and you do not have a special tax status, such as an accrued basis taxpayer subject to special rules as a result of your use of financial statements.

The discussion does not cover tax consequences that depend upon your particular tax situation in addition to your ownership of the notes, such as your holding the notes in connection with a hedging, straddle or conversion transaction. We suggest that you consult your tax advisor about the consequences of holding the notes in your particular situation.

The discussion does not cover you if you are a partner in a partnership (or an entity treated as a partnership for U.S. tax purposes). If a partnership holds the notes, the tax treatment of a partner will generally depend upon the status of the partner and upon the activities of the partnership. If you are a partner of a partnership holding the notes, we suggest that you consult your tax advisor.

The discussion is based on current law. Changes in the law may change the tax treatment of the notes.

The discussion does not cover state, local or foreign law, and, except for the U.S. federal estate tax consequences discussed below with respect to Non-U.S. holders, does not cover any U.S. federal tax consequences other than income tax consequences.

This discussion does not cover the Medicare tax that may be imposed on the "net investment income" of U.S. holders that are individuals, estates or trusts.

The discussion does not cover every type of notes that we might issue. If we intend to issue notes of a type not described in this summary, additional tax information will be provided in the prospectus supplement for the notes.

We have not requested a ruling from the IRS on the tax consequences of owning the notes. As a result, the IRS could disagree with portions of this discussion.

If you are considering buying notes, we suggest that you consult your tax advisors about the tax consequences of holding the notes in your particular situation."

The disclosure in the Prospectus Supplement in the section titled "Material U.S. Federal Income Tax Considerations" beginning on page S-26 in the subsection titled "Tax Consequences to Non-U.S. Holders" under the caption titled "Withholdable Payments to Foreign Financial Entities and Other Foreign Entities on the Notes" on page S-33 is amended and restated as follows:

"The Foreign Account Tax Compliance Act ("FATCA") imposes a U.S. federal withholding tax of 30% on certain payments to foreign financial institutions and other non-U.S. persons that fail to comply with information reporting

requirements in respect of their direct and indirect U.S. shareholders and/or U.S. accountholders. FATCA withholding currently applies to payments of interest on notes. Under certain circumstances, a Non-U.S. holder might be eligible for refunds or credits of such taxes. Prospective investors are encouraged to consult with their own tax advisors regarding the possible implication of this legislation on their investment in the notes."

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