

PENNYMAC MORTGAGE INVESTMENT TRUST
3043 TOWNSGATE ROAD
WESTLAKE VILLAGE, CA 91361

VOTE BY INTERNET

Before The Meeting - Go to www.proxyvote.com

Use the Internet to transmit your voting instructions and for electronic delivery of information up until 11:59 p.m. Eastern Time the day before the cut-off date or meeting date. Have your proxy card in hand when you access the web site and follow the instructions to obtain your records and to create an electronic voting instruction form.

During The Meeting - Go to www.virtualshareholdermeeting.com/PMT2021

You may attend the meeting via the Internet and vote during the meeting. Have the information that is printed in the box marked by the arrow available and follow the instructions.

VOTE BY PHONE - 1-800-690-6903

Use any touch-tone telephone to transmit your voting instructions up until 11:59 p.m. Eastern Time the day before the cut-off date or meeting date. Have your proxy card in hand when you call and then follow the instructions.

VOTE BY MAIL

Mark, sign and date your proxy card and return it in the postage-paid envelope we have provided or return it to Vote Processing, c/o Broadridge, 51 Mercedes Way, Edgewood, NY 11717.

TO VOTE, MARK BLOCKS BELOW IN BLUE OR BLACK INK AS FOLLOWS:

D47524-P54558

KEEP THIS PORTION FOR YOUR RECORDS
DETACH AND RETURN THIS PORTION ONLY

THIS PROXY CARD IS VALID ONLY WHEN SIGNED AND DATED.

PENNYMAC MORTGAGE INVESTMENT TRUST

The Board of Trustees recommends you vote FOR the election of two Class III Trustees as disclosed in Proposal 1:

1. To elect the two Class III Trustees identified in the enclosed Proxy Statement to serve on our Board of Trustees, each for a term expiring at the 2024 Annual Meeting of Shareholders.

Nominees:

For Against Abstain

1a. David A. Spector

1b. Randall D. Hadley

The Board of Trustees recommends you vote FOR Proposals 2 and 3.

For Against Abstain

2. To ratify the appointment of our independent registered public accounting firm for the fiscal year ending December 31, 2021.

3. To approve, by non-binding vote, our executive compensation.

NOTE: Such other business as may properly come before the Annual Meeting and any postponement or adjournment thereof.

Please sign exactly as your name(s) appear(s) hereon. When signing as attorney, executor, administrator, or other fiduciary, please give full title as such. Joint owners should each sign personally. All holders must sign. If a corporation or partnership, please sign in full corporate or partnership name by authorized officer.

Signature [PLEASE SIGN WITHIN BOX]

Date

Signature (Joint Owners)

Date

Meeting Information

Due to the ongoing COVID-19 pandemic, the 2021 Annual Meeting will be conducted online via live webcast at www.virtualshareholdermeeting.com/PMT2021.

Important Notice Regarding the Availability of Proxy Materials for the Annual Meeting:

The Notice of 2021 Annual Meeting of Shareholders, Proxy Statement and 2020 Annual Report, which includes our Annual Report on Form 10-K, are available at www.proxyvote.com.

D47525-P54558

**PENNYMAC MORTGAGE INVESTMENT TRUST
Annual Meeting of Shareholders
May 26, 2021 11:00 AM PDT
THIS PROXY IS SOLICITED BY THE BOARD OF TRUSTEES**

The undersigned hereby appoints David A. Spector and Derek W. Stark, and each of them, with the power to act without the other and with power of substitution, as proxies and attorneys-in-fact, and hereby authorizes them to represent and vote, as provided on the reverse side, all of the shares of PennyMac Mortgage Investment Trust the undersigned is entitled to vote, and, in their discretion, to vote upon other such business as may properly come before the 2021 Annual Meeting of Shareholders of the Company to be held on May 26, 2021, or at any adjournment or postponement thereof, with all the powers the undersigned would possess if present at the meeting.

This proxy, when properly executed, will be voted in the manner directed herein. If no such direction is made, this proxy will be voted in accordance with the recommendations of the Board of Trustees.

Continued and to be signed on reverse side.