PRICING TERM SHEET STRICTLY CONFIDENTIAL

Dated October 9, 2018

Issuer Free Writing Prospectus Filed Pursuant to Rule 433 Registration Statement No. 333-226128 Supplementing the Preliminary Prospectus Supplement dated October 9, 2018 (To the Prospectus dated August 15, 2018)

Granite Point Mortgage Trust Inc. \$125,000,000 6.375% Convertible Senior Notes due 2023

This pricing term sheet supplements Granite Point Mortgage Trust Inc.'s preliminary prospectus supplement, dated October 9, 2018 (the "Preliminary Prospectus Supplement"), including the documents incorporated by reference therein, relating to the offering of the Notes, and supersedes the information in the Preliminary Prospectus Supplement to the extent inconsistent with the information in the Preliminary Prospectus Supplement. In all other respects, this pricing term sheet is qualified in its entirety by reference to the Preliminary Prospectus Supplement. Terms used herein but not defined herein shall have the respective meanings as set forth in the Preliminary Prospectus Supplement. All references to dollar amounts are references to U.S. dollars. Unless the context otherwise requires, references to "Granite Point" or the "Issuer," "we," "us" and "our" in this pricing term sheet mean Granite Point Mortgage Trust Inc. and not its subsidiaries.

Issuer: Granite Point Mortgage Trust Inc., a Maryland corporation

Title of Securities: 6.375% Convertible Senior Notes due 2023 (the "Notes")

Ticker / Exchange: GPMT / New York Stock Exchange (the "NYSE")

Securities Offered: \$125,000,000 principal amount of Notes (plus up to an additional \$18,750,000 principal amount if the

underwriters exercise their option to purchase additional Notes to cover over-allotments, if any)

October 1, 2023 unless earlier repurchased by us or converted Maturity:

Offering Price: 100%, plus accrued interest, if any, from October 12, 2018

Underwriting Discounts and Commissions: 2.75%

Interest: 6.375% per year. Interest will accrue from the date of issuance (which is scheduled for October 12,

Conversion Premium: Approximately 10% above the NYSE last reported sale price on October 9, 2018

Interest Payment Dates: Each April 1 and October 1, beginning on April 1, 2019

Interest Payment Record Dates: Each March 15 and September 15, beginning on March 15, 2019

NYSE Last Reported Sale Price on October 9, 2018: \$18.61 per share of common stock

Initial Conversion Rate: 48.8496 shares of common stock for each \$1,000 principal amount of Notes

Initial Conversion Price: \$20.47 per share of common stock

Trade Date: October 10, 2018

Estimated Settlement Date: October 12, 2018 (T+2)

Joint Book-Running Managers: Morgan Stanley & Co. LLC

Citigroup Global Markets Inc.

J.P. Morgan Securities LLC

Wells Fargo Securities, LLC

Co-Managers IMP Securities LLC

Keefe, Bruyette & Woods, Inc.

Raymond James & Associates, Inc.

CUSIP / ISIN: 38741L AC1/ US38741LAC19

Use of Proceeds: We estimate that the net proceeds from this offering will be approximately \$121,262,500 (or

approximately \$139,496,875 if the underwriters exercise their option to purchase additional notes to cover over-allotments, if any, in full) after deducting underwriting discounts and commissions and

estimated offering expenses payable by us.

We intend to use the net proceeds from this to originate or acquire senior floating rate commercial real estate loans and other target assets, consistent with our investment strategies and investment guidelines and maintaining our REIT qualification, and for working capital and other general corporate purposes.

Until appropriate assets can be identified, we may use the net

proceeds of this offering to pay down our short-term debt or to invest in cash and cash equivalents. These uses are expected to provide a lower net return than we seek to achieve from our target assets. Prior to the time we have fully used the net proceeds of this offering to acquire our target assets, we may fund our quarterly dividends out of such net proceeds.

Adjustment to Shares Delivered Upon Conversion Upon a Make-Whole Fundamental Change:

The following table below sets forth the number of additional shares (as defined under "Description of the Notes—Adjustment to Conversion Rate Upon Conversion in Connection with a Make-Whole Fundamental Change" in the Preliminary Prospectus Supplement) to be received per \$1,000 principal amount of Notes for each stock price and effective date set forth below:

| Effective | GPMT Common Stock Price | | | | | | | | | | |
|------------------|-------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Date | \$18.61 | \$18.75 | \$19.00 | \$19.50 | \$20.00 | \$20.47 | \$21.00 | \$21.50 | \$22.00 | \$22.50 | \$23.00 |
| | | | | | | | | | | | |
| October 12, 2018 | 4.8849 | 4.6107 | 4.1400 | 3.2754 | 2.5095 | 1.8788 | 1.2700 | 0.7940 | 0.4127 | 0.1356 | 0.0000 |
| | | | | | | | | | | | |
| October 1, 2019 | 4.8849 | 4.6107 | 4.1400 | 3.2754 | 2.4900 | 1.8412 | 1.2214 | 0.7433 | 0.3714 | 0.1133 | 0.0000 |
| | | | | | | | | | | | |
| October 1, 2020 | 4.8849 | 4.6107 | 4.1400 | 3.2754 | 2.4715 | 1.8017 | 1.1676 | 0.6860 | 0.3186 | 0.0769 | 0.0000 |
| | | | | | | | | | | | |
| October 1, 2021 | 4.8849 | 4.6107 | 4.1226 | 3.1477 | 2.2990 | 1.6199 | 0.9919 | 0.5316 | 0.2009 | 0.0173 | 0.0000 |
| | | | | | | | | | | | |
| October 1, 2022 | 4.8849 | 4.3173 | 3.7384 | 2.7005 | 1.8280 | 1.1666 | 0.6010 | 0.2367 | 0.0318 | 0.0000 | 0.0000 |
| | | | | | | | | | | | |
| October 1, 2023 | 4.8849 | 4.4837 | 3.7820 | 2.4325 | 1.1504 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| | | | | | | | | | | | |

The exact stock prices and effective dates may not be set forth in the table above, in which case:

- if the stock price is between two stock prices in the table or the effective date is between two effective dates in the table, the number of additional shares will be determined by a straight-line interpolation between the number of additional shares set forth for the higher and lower stock prices and the earlier and later effective dates, as applicable, based on a 365-day year;
- if the stock price is greater than \$23.00 per share (subject to adjustment in the same manner as the stock prices set forth in the column headings of the table above), no additional shares will be added to the conversion rate; or
- · if the stock price is less than \$18.61 per share (subject to adjustment in the same manner as the stock prices set forth in the column headings of the table above), no additional shares will be added to the conversion rate.

Notwithstanding the foregoing, in no event will the conversion rate be increased on account of a make-whole fundamental change to exceed 53.7345 shares of our common stock per \$1,000 principal amount of notes, subject to adjustment in the same manner as the conversion rate is required to be adjusted as set forth under "Description of the Notes—Conversion Rights—Conversion Rate Adjustments" in the Preliminary Prospectus Supplement.

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This communication shall not constitute an offer to sell or the solicitation of an offer to buy securities nor shall there be any sale of these securities in any state in which such solicitation or sale would be unlawful prior to registration or qualification of these securities under the laws of any such state.

This pricing term sheet does not contain a complete description of the Notes or the Notes offering. It should be read together with the Preliminary Prospectus Supplement and the accompanying Prospectus.

The Issuer has filed a registration statement (including a Prospectus, dated August 15, 2018, and a Preliminary Prospectus Supplement, dated October 9, 2018) with the Securities and Exchange Commission, or SEC, for the offering of the Notes. Before you invest, you should read the Preliminary Prospectus Supplement, the accompanying Prospectus and the other documents the Issuer has filed with the SEC for more complete information about the Issuer and the offering of the Notes. You may get these documents for free by visiting EDGAR on the SEC's website at www.sec.gov. Alternatively, copies may be obtained from Morgan Stanley & Co. LLC, Attention: Prospectus Department, 180 Varick Street, 2nd Floor, New York, NY 10014, or by telephone at: (800) 584-6837 or by email at: prospectus@morganstanley.com, Citigroup Capital Markets Inc., Citigroup, c/o Broadridge Financial Solutions, 1155 Long Island Avenue, Edgewood, NY 11717, or by telephone at: (800) 831-9146, J.P. Morgan Securities LLC, c/o Broadridge Financial Solutions, 1155 Long Island Avenue, Edgewood, NY 11717, Attention: Prospectus Department, or by telephone at (866) 803-9204, or Wells Fargo Securities LLC by telephone: at 866-346-7732.

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